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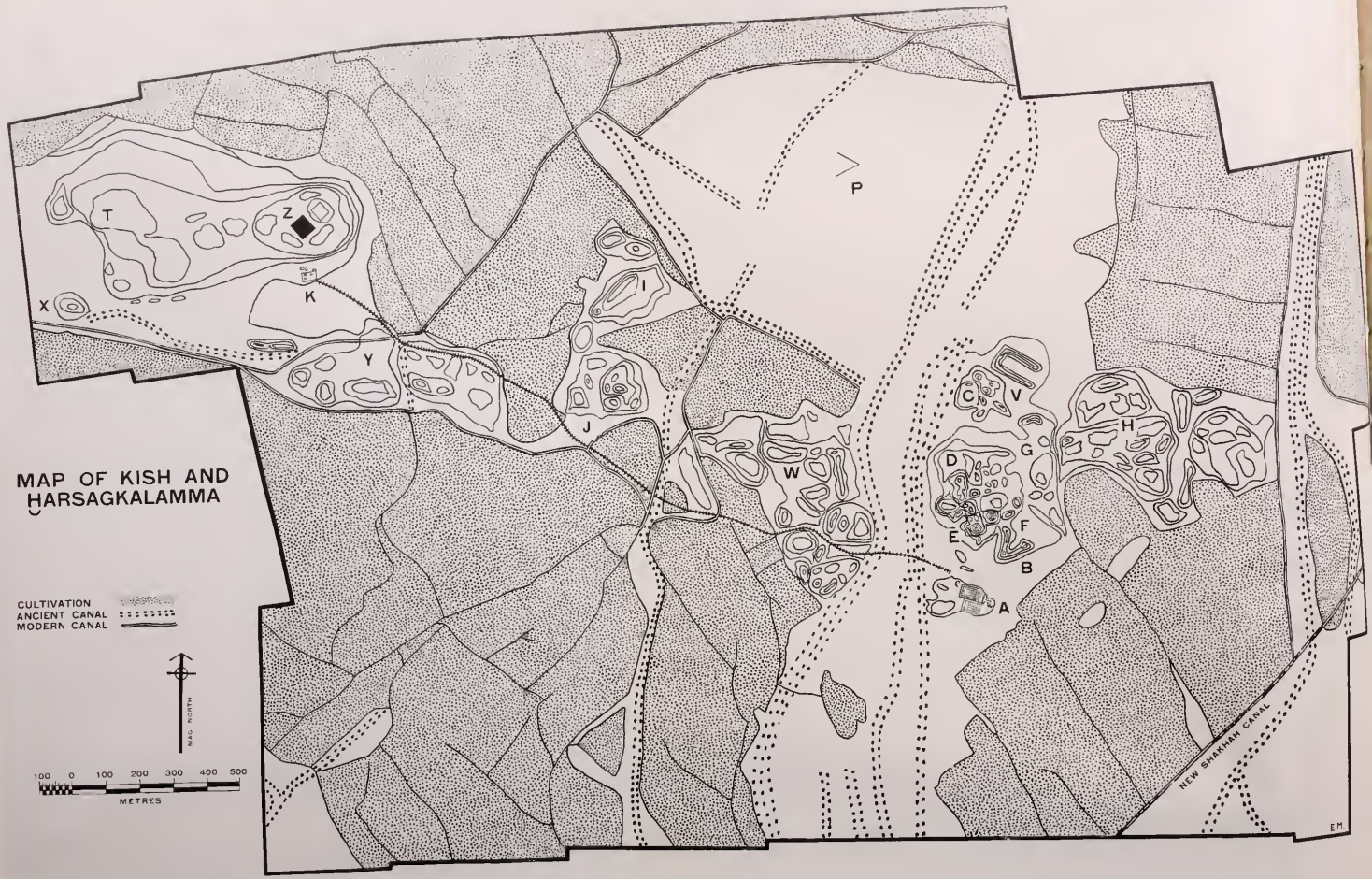
MAP OF KISH AND HARSAGKALAMMA
CULTIVATION
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ANTHROPOLOGY, MEMOIRS VOLUME I, NO. 2

A SUMERIAN PALACE AND THE "A" CEMETERY AT KISH, MESOPOTAMIA

PART II

BY

ERNEST MACKAY

WITH PREFACE BY STEPHEN LANGDON

42 Plates, 1 Map

FIELD MUSEUM - OXFORD UNIVERSITY JOINT EXPEDITION

BERTHOLD LAUFER
CURATOR OF ANTHROPOLOGY
EDITOR

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PREFACE

This volume contains the first publication of the architectural discoveries and the rich Sumerian archaeological treasure recovered at Kish. The great palace of the early kings of Kish has been completely revealed; this splendid contribution to the history of Sumero-Babylonian architecture is an entirely new achievement in the history of Mesopotamian excavations. Mr. Mackay's monograph, which includes the mass of archaeological discoveries made during the last season, presents new facts concerning the life and manners of the early Sumerian and Semitic inhabitants of Kish on every page, and the readers may surmise the satisfaction that the promoters of this expedition derive from having uncovered the oldest and most unique royal residence in Sumer and Accad.

The objects found in the graves, which are obviously of a later date than the great building, especially the seals,[1] prove the place was used as a cemetery already in pre-Sargonic times. Since Sargon, founder of the empire of Agade in 2752 B.C., overthrew the last dynasty of Kish, founded by Kug-Bau, it seems probable that the old palace of the mighty kings of Kish had fallen into decay and was used for a burial-ground in the days of Kug-Bau, Gimil-Sin, and Ur-Ubaba, of the third and fourth kingdoms of Kish (2943-2753 B.C.). This is the period to which the mass of Sumerian pottery, copper tools and weapons, seals and ornaments must be assigned. It is therefore obvious that the last rulers of Kish did not occupy the spacious and stately palace of their ancestors. Perhaps we shall learn more concerning them when the huge temple of the mother-goddess Ninharsag or Innini will have been excavated at Ingharra. The ancient kings lived in the shadow of this mighty temple whose massive ruins and double stage-tower now rise high above the low ruins of the palace—the temptation and the despair of the excavator. These we intended to attack in force next season, but such is the colossal size of the temple ruins that no rapid results like those which attended the last two seasons' work on the palace mound can be expected. It is unlikely that any other great Sumerian palace or building of the early plano-convex period will ever be found in such comparatively undisturbed condition in Mesopotamia. In the other old capitals of Sumer, Erech, Adab, and Ur, the old palaces were almost destroyed by later superimposed buildings. The same is true of the residences of powerful Patesi kings at Lagash and Nippur.

By extraordinary good fortune the expedition found the old Kish palace, as it stood in the last days of the great kings of early Kish. It was already a pile of ruins in the days of Ur-Ilbababa and Sargon. The rulers of Babylonia from Sargon to the days of Alexander the Great could have had no knowledge of its existence. Its ruins were one of those sites of long past decay to which the later poets and philosophers referred in the supreme expression of Babylonian pessimism, "Ascend thou unto the ruins of cities, go to those of old. Behold the skulls of the later and the former ones. Who is now an evil-doer, who is now a benefactor?"[2]

We have found the skulls of the "former ones," and we know their works long before 3000 B.C. It is as their own poets have said. We know not who was good, or who was evil among all the dead found by us there. Every one of them lay buried with all the accoutrements of this life. Beside them were found the jars, cups, and plates by which they had been provided with food and drink for their long journey to the lower world. The types of jars and eating plates found at Kish afford entirely new material in the history of ceramics. The rude representation of the bust of the great mother-goddess on the handles of the jars is that of Ninharsag or Innini of Harsagkalamma, the spacious and ancient temple which stood just east of the palace itself. But, unlike the palace, this temple was restored, and its older buildings built upon in every age to the end of Babylonian history. In fact, it gave its name to this part of Kish, which was known as the city of Harsagkalamma in the days of Nebuchadnezzar and Darius.

The results of the first three years' work of the expedition speak for themselves in the volumes already published. They abundantly justify the efforts which have been made, and repay many fold the generosity of our patrons. Mr. Herbert Weld, Litt.D., of Lulworth Castle, who supports the expedition on behalf of the University of Oxford, and the Trustees of Field Museum of Natural History deserve the gratitude which scholars of all lands feel toward them. As the Director of this Expedition it is my pleasant obligation to speak of the unfailing courtesy I have received at their hands from the beginning of my organization and throughout the three years' work now brought to a close.

STEPHEN LANGDON,

Professor of Assyriology.

Jesus College, Oxford, October 6, 1925.

A SUMERIAN PALACE AND THE "A" CEMETERY AT KISH, MESOPOTAMIA

PART II

INTRODUCTION

This publication deals with a large Sumerian building of very early date, with a full description of its purpose and contents. It was late in December, 1923, that Lieutenant Colonel W. H. Lane was particularly struck with a mound to the south of the high and important mounds called by the local Arabs Ingharra. Its surface was covered with broken pottery, bricks, and flints, all of very early date. Two gangs of natives were, therefore, set to work on the mound to determine as quickly as possible what lay within it. In the course of the first day a burial was completely cleared. It contained pottery of an entirely new type, and more men were at once put at work to make a more extended investigation.

The mound, which we call "A," has no local name. It really belongs to the Ingharra group of mounds, from which, about 70 m to the north, it is separated by an alluvial valley rising gently to the west which has been cut by centuries of winter rains. It would seem that mound "A" and the Ingharra mounds were once continuous. Work was begun on the northern side of the mound and with the addition of more men gradually spread around to the east. It was from the east that we made our great attack. In the course of a few weeks we had completely uncovered a large façade and stairway constructed of a very early type of plano-convex brick, which proved beyond doubt that beneath us we had the remains of a very important building. The excavation of "A" was discontinued for the hot months at the end of March, and was resumed in October of the same year. The whole of the building beneath the mound was completely cleared by the end of March, 1925.

In our first season (1923-24) I was ably assisted by Colonel Lane, who supervised this site as well as another when I was not present. He also cleared many of the graves and assisted generally in the routine of the excavations. In our second season (1924-25), Mr. D. T. Rice took the place of Colonel Lane and, being a trained anthropologist, undertook the clearing and recording of all the graves. This arrangement left me free to concentrate on the building.

The history of the site is briefly as follows: The building with extremely thick double walls and a stairway, which lies to the north on the plan (Plate XXI), is the original building. It is entirely constructed of unbaked plano-convex bricks of a small size, whose dimensions are 23 x 15 x 3.50-6 cm, the bricks of both foundations and upper walls being exactly similar. The proximity of this portion of the buildings to the Ingharra mounds also would suggest that it is of an earlier date than the rest. At a later period—it does not seem to have been

long after—the building was enlarged by erecting an annex to the south of it. It will be seen on the plan that this annex or rather what remains of it is strongly fortified. There are towers at intervals upon its double wall. The annex also is constructed of bricks of an early type which measure 21 x 15.50 x 4.50-7 cm and, though its walls are thinner than those of the building to the north of it, it would seem from its appearance to have been put up in more troublous times. It is obviously more capable of defence than is the first building.

Whoever added this annex to the palace also slightly altered the design of the original building. One of the main entrances to the earlier building was by the stairway toward its eastern end. Owing to a rise in ground levels, the builder of the annex found that this stairway could no longer be used conveniently. He altered it by building a flanking wall on either side and filling in the space between to form a ramp. The fact that this ramp was a proper feature of the restoration is proved by the filling being composed of a material which seems to have been used both for this building and its annex, namely, large lumps of river-clay.

Both buildings were evidently assaulted and sacked, possibly on more than one occasion, and the site seems to have been abandoned, except at the period when a few small buildings were erected over the ruined palace. These buildings are shown in the skeleton plan of the palace (Plate XXII). They most probably occupied the site just before or during a period when the mound was used as a cemetery, for none of the many graves were found beneath their walls.

The numerous graves found in the mound were rich in pottery and other objects. They were all of a considerably later date than the palace beneath them, as is proved by the fact that many of the burials were actually on the denuded walls of the old palace. In many cases, the walling of the palace had even been cut away when the grave was dug. From the objects recovered from these graves, it would seem that they belong to the period of Ur-Nina or Eannatum of Lagash, which according to the Weld-Blundell prism was about 3150 B.C.[3] As nothing was found in the palace itself to date it with any degree of certainty, we have to fall back upon the evidence supplied by the cemetery above it. We date it, therefore, provisionally, as 3500 B.C.

Of later date than the graves are a few bits of walling which are linked up by their brickwork with the period of the first dynasty of Babylon. These fragments seem to have had no real connection with the mound. They probably formed part of a boundary wall. After this, the mound seems to have been completely abandoned, though, judging from the amount of broken brick strewn about, the western portion seems to have been used as a brick field in Neo-Babylonian times. It is possible also that the higher portion of the mound above the ruins of the palace was once occupied by small houses which have been entirely denuded away. Evidence of their former existence remains in the shape of drains made of cylindrical sections of pottery, some of which penetrate as far down as the foundations of the palace beneath. The close proximity of the extensive mounds of Neo-Babylonian date which we called "W" will explain this later use of the "A" mound.

Only three burials of Neo-Babylonian date were found in the "A" mound (burials 4, 111, 114), and there was one which contained several bodies associated with objects of the Greek period. These four burials close the history of the mound, as far as it can be traced through the objects found in and upon it. It is unfortunate that such a fine building could not have been completely recovered. The plan will show that the southern portion of the annex has been entirely denuded away. I am not at all certain, however, that the building extended much farther in this direction. The northern and eastern portions of the palace proper are also missing from the plan. These have been entirely swept away by the rains and winds that cut the valley between "A" and Ingharra,[4] a fact to be greatly deplored as it is in this portion that one would expect to have found the royal quarters, and with them satisfactory evidence for dating the building. We cannot, however, make much complaint; for a palace of such size, despite the fact that it was entirely constructed of crude mud bricks, has never before been found and excavated in Mesopotamia.[5]

The method adopted in planning the building was as follows. Before excavation the mound was pegged out into squares of 15 metres. The walling of the palace that lay inside each square was surveyed from one of the corners of the square, the nearest convenient point being always taken. This system allows of the greatest accuracy when a theodolite is used. It is also convenient when walls at the bottoms of deep holes, which cannot easily be reached with a tape, have to be tied in. The squaring shown in both plans of the palace is identical with that used on the site.

The levels of all burials and objects of importance were taken with a proper instrument before anything was removed. This would seem to the uninitiated to be a somewhat wearisome task, but it was not really so. The level was set up early each morning and remained ready for use during the whole of the day. When an object or grave was discovered, it was only the work of a few seconds to ascertain its exact position and level and to record it temporarily either on the object itself or in a notebook. In this connection I should like to take the opportunity of thanking the Director of Railways and the Director of Surveys of the Government of Iraq for the kindly loan of theodolite and level.

The following system of ganging the workmen was adopted for our work on mound "A." Each gang numbered nine in all, three men (a pickman and two shovelmen) and six boys. Nearly all the pickmen were natives of Kuwairish, a village close to ancient Babylon, and most of them had had a certain amount of experience with the Germans digging at Babylon before the war. The shovelmen were local Arabs, as were also the basket-boys. The advantage of "ganging" is very great. The pickman is entirely responsible for the work of his gang; if he cannot keep order among them, he is replaced by another man. Thus the position of pickman is a responsible one, and carries a certain prestige as well as extra pay.

In our early work at "A," considerable difficulty was experienced in finding the actual faces of the walls, which were all of mud brick and frequently in very bad condition. The bricks were generally made of very inferior clay; and when

account is also taken of the fact that the filling of the chambers, courtyards, etc., was of identically the same material as the bricks, consisting as it did of walls that had been washed in and consolidated by countless storms of wind and rain, it is a marvel that we were able to do as much as we did. Before we and our workers had obtained experience, we found that in some cases we were cutting into walling instead of into filling, the latter frequently being harder than the former. Fortunately, no irretrievable damage was done, but an excess of caution on the part of some of the men led to their claiming that there was no doorway into chambers that were being excavated. In such cases, one man, who seemed to have quite a flair for that particular work, was put to the task of finding the doorway, and during the latter part of last season he did nothing else.

We finally devised a method of clearing chambers, which seemed to be the best for mud-brick buildings of an early date. An experienced man will first try to find the limits of the chamber from above for a short distance down. When this has been done, he will endeavor to get down to the foundations of the chamber in the middle and feel for the walls from this point. As the foundations are thicker than the walling above them, there is little risk of damage to the walling itself. As the walls are set in from the foundations at practically the same distance in all chambers, the pickman can tell within a few centimetres when he is coming upon them. In most cases, the foundations are well preserved, and bricks are readily extracted from them for measurement. This method, coupled with the fact that the laborer works horizontally against the face of the filling instead of vertically downward, assists in the preservation of pottery, tablets, etc., which are liable to damage from the pick when approached from above.

Two plans are given of the palace at "A" (Plates XXI and XXII). The first shows the early building with its annex separated from all extraneous matter. The second plan gives the position of all the later walling found on the site together with the exact position of each of the graves of the cemetery. This plan has also been used to mark the positions of the various sections shown in Plate XXIII. To avoid confusion, a second datum line has been drawn in dots and dashes 5 m above the zero-datum line, which, of course, passes through the thicknesses of walls and foundations. When a level is mentioned in the text, it is invariably taken from the zero-datum line.

In practically every case where an object is mentioned in the text, its registered number and the museum to which it was sent follow it in parentheses, as, for instance, Reg. No. 4321; Field. This will enable the reader to trace the final resting-place of every object, and by means of its number to procure further information about it, if he should so desire.

In the line drawings, the registered number of each object is also marked on the object. On the left is given the number of the burial from which it came. Those objects without a burial number were found lying in the debris mound unaccompanied by other objects.

TOPOGRAPHY OF KISH AND HARSAGKALAMMA

The map appended to this volume includes that portion of Kish which extends from the ruined mud-brick buildings, dated to the period of the first dynasty of Babylon, that lie on the western side of the Ziggurat of Tell Ahaimir, to the complex of mounds away to the east, known locally as Tell Ingharra. It has been adapted from the air-map made by the Royal Air Force, by kind permission of the Air Vice-Marshal, in February, 1924. Though this air-map has proved of very great value in our work, it could not, for want of clearness, be included in this volume without alteration. And this is, of course, due to the peculiar characteristics of the country around Kish, which is entirely bare of trees and crops, except for one season in the year, and bare of mounds of imposing height, excepting Tell Ahaimir and Tell Ingharra.

It is the intention of the expedition to publish this map with every future volume that is issued, adding to it in each instance, the outlines of buildings that have been completely excavated, and are subjects of the volumes issued. Several excavations made by us at "T," "Z," "P," and "W" are incomplete, and it is useless to include these buildings in the map before they have been finished and described. "A" falls in the former category, and its plan, therefore, will be found on the map.

The contour lines of the mounds must be regarded as provisional only, for no systematic levelling has yet been done, with the exception of that at mound "A." To level properly the whole of the enormous site of Kish and Harsagkalamma would require a very considerable amount of time, which the members of the expedition with more urgent work to perform have not yet been able to afford. After a careful tracing of the air-map had been made, each mound was visited in turn and the contours were filled in by hand, where these were not sufficiently clear in the tracing. The results are, we think, sufficiently accurate to allow of their being placed before the archaeological world. Our camp "K" was situated just below the southern corner of the Ziggurat at Tell Ahaimir "Z", on the edge of a flat stretch of ground, which is one of the lowest areas of Kish and its neighbourhood. Our zero-datum line, to which all the levels at Kish, which have been and still remain to be made, are to be referred, was fixed within the confines of the camp "K".

The summit of Ziggurat "Z" at Tell Ahaimir is about 19 m above our zero-level and the lower mounds that surround it average 5 m above. The Ziggurat has a core of burnt brick which is dated to the period of the first dynasty of Babylon and an outer casing of sun-dried brick of the period of Nebuchadnezzar. We do not yet know with certainty if earlier buildings than those of the first dynasty of Babylon lie beneath the Ziggurat and its temple.

For a considerable distance to the west of the Ziggurat, there are numbers of mounds of varying heights and sizes, all linked together by lower mounds.

Those which strictly belong to the Ziggurat terminate at "T." A small area of this portion of Tell Ahaimir has been excavated, but much remains to be done before the results can be published. The date of this area, as proved by tablets and other objects found there, is the first dynasty of Babylon. The buildings are all constructed of sun-dried brick, and are paved only here and there with burnt bricks. The fact that this site was occupied for a considerable time is proved by the varying sizes of bricks used in its construction. They are all rectangular in shape, averaging 27 x 18 x 9.50 cm, excepting some bricks of the Neo-Babylonian date, which are square.

The small mound "X" stands 3.15 m above datum. Beneath it were the remains of a small fort, which was discovered and excavated by Colonel Lane. The bricks of which the fort was built were all sun-dried and average 33 x 33 x 6.50 cm in size. This fort is presumably of the period of Nebuchadnezzar II, for its bricks agree in size with those found in the mound of Neo-Babylonian period at "W." No wall has so far been found in connection with this fort, but slightly higher ground to the west of this building has yet to be examined before any definite statement can be made on this point.

A conspicuous mound about 3 m high, a little to the S. W. of our camp at "K," was examined in the hope of finding a wall that might have been connected with the fort; but no trace of building was found beneath this mound. It seems to be merely an accumulation of the debris thrown out of an ancient canal that lies in its vicinity. Our usual path to mounds "W" and "A" is marked on the map by a ladder-line. It will be convenient, therefore, to visit the various sites, on paper as in practice, along this line.

The two mounds "Y," which are roughly divided by an ancient canal, are of little interest archaeologically, judging by their surface remains. In no part are they higher than 2.60 m above datum, and their average height is only 70 cm to 1 metre. They are covered with late pottery with a sherd here and there of bright blue glaze associated with the Parthian period. No trial cuttings have as yet been made in this mound, which is used as a camping ground by Beduins on their journeys to and from the south. The mounds "I" and "J" are much more important. No work has as yet been done there, but the fact that they cover important remains is proved by their height and size. Their surfaces are a mass of fragments of late pottery with a trace here and there of blue Parthian glaze. I am inclined to think that nothing earlier than Neo-Babylonian material will be found in these mounds, for there are no traces of pottery of an earlier period in the cultivation immediately around them. They appear to me to cover too large an extent of ground to be forts or other military works, but this point can be settled only by actual excavation.

Mound "W" is of immense size, and chiefly consists of buildings of the Neo-Babylonian period. From this mound were extracted many tablets of both the Isin and Neo-Babylonian periods, but up to the present nothing of earlier date. The surface of the mound is covered with pottery of a late period, ranging from Nebuchadnezzar to the early Arab period. It would seem to have been a resi-

dential quarter. There are numbers of large houses situated, chiefly, in the southern part of the mound. This mound is surrounded on all sides by cultivation, except to the east, where it is bounded by an ancient canal. Its highest part is south and west and this portion rises fairly steeply from the cultivation to a height of nearly 5 m (4.80 m) above our datum line. The summit of the mound is far from level. It is studded irregularly by small knolls which cover the larger buildings that lie beneath. These knolls range in height from 1 to 2 m above the more level portions of the mound. Toward the north and east, the mound gently descends until it is lost in the cultivation or the canal. The mound may be described as roughly pear-shaped with its apex pointing toward the west. This latter portion is thickly covered with numbers of broken bricks, some of which were overfired in the kiln. From the quantity of these bricks I am inclined to think that this part of the mound was at one time devoted to brick-making. The level of the cultivation around mound "W" averages 1.50 m above our zero level.

The three canals which divide "W" from the complex of mounds locally known as Ingharra are of varying periods. The western one is the most recent. It appears to have been cut after the "W" quarter was built; for, it will be noticed, it bends to avoid the mound, opposite which the bed of the canal averages 3.14 m above datum line. The unequalness of the bed, especially of that portion which curves round the mound, suggests that then, as so often now, houses were crowded too close to the canal. I would ascribe the date of this canal to the Neo-Babylonian period. Tall heaps of the silt thrown out from its bed during repeated clearances line its banks, which in places still stand over 3 m high above the bottom of the canal.

The two canals to the east of the one just described are in various stages of obliteration. The middle one is still clearly defined, but is not so prominent as the canal close to "W," and the eastern one is almost entirely denuded away. It is impossible in the present state of our knowledge to assign a period to these two ancient waterways.

The reason for these three canals being so close together is as follows: After a canal has been in use for some time, and has been repeatedly cleared of silt, the latter forms great mounds on either side of it, so that it becomes increasingly difficult to remove the silt. When this state of affairs is reached, it is more economical to construct a new canal alongside than to go on clearing out the older one.

Crossing the remains of the three canals, we reach mound "A," of which the greater part has now been excavated. Only the lower and flatter portion to the west remains unfinished. This part, however, is strewn with quantities of late pottery and bricks, whose fused surfaces show them to be throw-outs from a kiln or kilns. I am inclined, therefore, to think that this part of the mound was concerned solely with works of utility.

The highest portion of "A," in the centre and slightly to the east, was 5.84 m above zero level and the northern slopes of the mound were considerably

steeper than those to the south, owing to denudation not so badly affecting some thick walling there. The cultivation to the south-east of the mound averages 1.90 m above our zero level, and to the east of it, about 2.50 metres.

Between "A" and the large complex of mounds marked "B," "D," "E," "F," and "G" is a broad depression which descends from the canal gently toward the cultivation at the east. This valley has been cut out by the winter rains of ages past, and in consequence of its formation a large portion of the Sumerian palace at "A" has been swept away. This depression is clearly seen in two photographs (Plates XXIV, Fig. 2, and XXIX, Fig. 3).

The mound "E" is the highest portion of the series of mounds which are locally known as Tell Ingharra.[6] Its summit is 18 m above zero level. A small trench cut in the side of this mound revealed a certain amount of burnt limestone, which suggests that perhaps this Ziggurat—for such from its shape it almost certainly is—was at one time covered with this material. North-east of this Ziggurat and joined to it by a shoulder is a smaller Ziggurat "F." A little work undertaken there last season proved definitely that it was once a temple-tower built of plano-convex bricks over an even older building. Both these Ziggurats are shown in Plate XXIV, Fig. 2. The summit of this smaller Ziggurat is 16.28 m above zero level.

"B" is a large mound, the highest portion of which is 9 m above datum. A trial trench made in it revealed sun-dried brickwork of the time of Hammurabi over older walling, which was proved to be of the early Sumerian period by the numerous pieces of inlay of mother-of-pearl found at the base of the walls. These older walls themselves were in too bad a condition for bricks to be extracted from them for measurement. This mound must cover a very important early Sumerian building.

Mound "C" is roughly 10 m above datum. Shallow cuttings made here uncovered a wall whose bricks resembled those in the ruins of Tell Ahaimir; and the building is, therefore, presumably of the period of the first dynasty of Babylon. It is not yet known what lies still farther beneath.

Between the mounds of Ingharra and "V" there is a comparatively level piece of ground with a slight decline toward the N. N. E. A trial trench cut here showed the soil to be of a peculiarly fine sandy nature, such as would be deposited by the water of a canal. It is quite distinct from the ordinary alluvial soil, and though no other indication of it now exists, it is quite possible that a canal once flowed alongside of Tell Ingharra.

The horseshoe-shaped mound "V" is very curious. Its top which lies roughly 9 m above zero level is fairly level. No experimental cuttings have as yet been made there, but M. H. de Genouillac in 1911-12 found that it was constructed of bricks measuring 31.50 cm square by 10.50 cm thickness. He thinks that this building is a fortress of late date, with which conclusion I am inclined to agree.[7] This mound is locally known as Tell el-Bandar, or the "mound of the harbor," because of its curious shape like an elongated horseshoe. The word *bandar* ("harbor") is borrowed from the Persian.

The large group of mounds marked "H" is likely to prove very interesting. The highest part is 4.50 m above zero level, and the mound, or rather, group of mounds, is broken up here and there by rain-cut valleys, so that its surface is very uneven. The average level of the cultivation around these mounds is 1.50 m above datum. Some tentative work here revealed walling of sun-dried bricks, which appeared to be of very early date; but owing to their condition, it proved impossible to extract any bricks from the walls for measurement. I am inclined to think that this site represents the poorer quarters of the city in very ancient times, and that it will be here that particulars and ground-plans of the dwellings of the people of that time will be obtained. On the surface of this mound there are fragments of early spouted ware, handled jars (type A), sickle flints, and broken stone vessels. The mound seems to have been practically abandoned in later days, though on the top was found a quantity of plaster moulding of the Greek period. There was so much of it that it must have formed part of the decoration of a large house whose sun-dried bricks have disappeared, leaving the harder plaster behind. There were also a few bricks of Nebuchadnezzar's time and a little blue Parthian glaze.

The large area marked "P" on the map is a very wide plain whose height above our zero level has not yet been ascertained and might provisionally be put at about 2 metres. In this area there is a very large number of buildings, of which we have partially uncovered two. One of these is apparently as large as the palace which is the subject of this publication.

As far as can be made out from the indications on the surface of the ground, the whole extent of this large area, as far as the cultivation around it, is one mass of buildings. Walls and even doorways are in several places clearly mapped out for a day or two by differential drying after rain. Of the two buildings partially excavated the walls average 30 cm in height, to which must be added about 1 m of foundations. The size of the bricks is 24 x 16 x 4-6 cm, which is slightly larger than those found in the palace at "A." Colonel Lane and I consider the buildings partially excavated in this area to belong to an even earlier period than the palace at "A." They may perhaps be assigned to the beginning of the second dynasty of Kish.

I. THE SUMERIAN PALACE AT MOUND "A"

DESCRIPTION OF THE PALACE "A"

The palace will be described in three sections—the original palace, the eastern wing and stairway, and the annex. It will be convenient also to regard its sides as exactly facing the cardinal points of the compass, though, as will be seen in the plan, this is far from being actually the case.[8] The outer portion of the western side of the palace was somewhat difficult to trace. The wall was only 110 cm high in the middle, though the debris covering it was considerably higher. This can hardly be accounted for by denudation, and the probable explanation is that the wall was breached at this point by the enemies of Kish who stormed and overthrew the palace. The length of the wall is 40.90 m, and its breadth 3.50 metres. This latter measurement, however, does not include the footing, or foundation, which is 4 m thick. At intervals of 6.20 m there are unusually shallow buttresses, 2.10 m wide, which project only 15 cm from the face of the wall. Similar buttresses or projecting towers on the northern face of the wall may be seen in Plate XXX, Fig. 3. They all show signs of much weathering, and it is a debatable point whether they did not once extend out as far as the face of the footing of the wall. If so, they would have been nearly 40 cm deep. It will be seen that this magnificent wall extends around the building on all four sides, varying but little in thickness, except to the south, where it is in places 3.90 m thick.

The level in centimetres of the wall varies slightly, as follows:—

	N. W. Corner	S. W. Corner	N. E. Corner	S. E. Corner
Top of wall	Plus 129	Plus 111	Plus 88	Plus 168
Top of footing	Plus 70	Plus 40	Plus 31	Plus 13
Base of footing	Plus 22	Minus 74	Minus 39	Minus 62

Both on the western and eastern sides, the building declines slightly to the south. This declination is noticeable on the surface of the ground outside the western side of the building, and shows that, though the ground was carefully prepared before building, it was not considered absolutely necessary to obtain a perfect level. For a building of mud brick the results must be considered as being extremely good; the errors are quite imperceptible to the eye.

Plate XXXIV, No. 2, shows a conjectural restoration of the western side of the building on the model of a sculptured scene showing an Assyrian army attacking a fortress.[9] Although the fortress is dated to about 700 B.C., there is every reason to think that the Sumerian palace of 3500 to 3000 B.C. presented the same features, namely, battlemented towers linked together by a curtain wall, overlooked by an inner building which also had fortified towers. The height of the building in the restoration is, of course, a surmise. It may have been higher, but could hardly be lower, for in the latter case there would have been considerable

danger from scaling parties. The shape of the merlons has been copied from the Assyrian representation, but it is quite possible that in Sumerian times they were square or even rounded. To make a restoration of a building is always an invidious task, but it serves to illustrate a conception of its probable appearance far better than many lines of print.

The plan shows that a corridor, 2.30 m wide, runs round within the great outer wall of the original palace. The inner wall of this corridor varies in thickness above ground from 2.50 to 2.70 m; the width of its foundation is 3.15 metres. Nowhere along this wall is there any entrance to the chambers within, except at the northern end of its eastern side, and on the south to a single chamber only. A passage of such nature can only have been intended for protection, and it can best be described as a kind of fosse between the outer and inner lines of defence.

Particular attention was paid to the debris found in this fosse in the hope that objects found in it might provide a definite clue to its use. The filling was, however, singularly clean. With the exception of one or two burials, no objects were found to suggest that the fosse had ever been used as an ordinary passage. It is probable that this above-ground fosse was always open to the sky and that gangways thrown across it at intervals gave access to the top of the outer wall. In the event of the outer wall being scaled or battered down, these gangways could have been withdrawn or thrown down, and the defence of the building continued from the inner wall or ward.

In the case of an assault, the narrowness of this fosse would be of great advantage. A breach in the outer wall would probably not be of any very considerable size, owing to its thickness. It would, therefore, only admit comparatively few of the invaders at a time, who would find themselves confronted with a still higher wall than the one they had battered down, with the additional disadvantage of having no space in which to maneuvre or to use scaling ladders. In this predicament, they were doubtless assaulted by every weapon of offence and defence known to the Sumerian of the period, and must have had an extremely unpleasant time.

That something of this sort actually happened here is proved by the fact that the middle of the western wall shows signs of having been breached in several places. The inner wall practically opposite these breaches, near the southern end of chamber 2, is also lower than elsewhere. It is also interesting to observe that the fosse running along the northern side of the building was blocked up near the middle of its length with bricks measuring 20.50 x 13 x 3.50-6 centimetres. This obstruction was evidently hurriedly put up during a lull in the attack after the outer wall was breached. A very similar blocking up of the passage with bricks of the same size is to be found in the south-east corner of the building. These obstructions effectually sealed the entrances of the interior and eastern portions of the palace, but could not have been of any avail when the second line of defences was broken down. It should be pointed out here that the bricks used in building these obstructions correspond in size with the bricks used to build the great annex to the south of the original palace.

The great interior courtyard (6) measures 14.50 m from north to south and 15 m from east to west. There is no doubt, I think, that it was open to the sky; it would be a most difficult place to span without the assistance of columns, and of columns of the same date as the court. The walls, except that on the west, are in an excellent state of preservation. A curious feature is the presence of what seems to have been a semicircular buttress (Plate XXX, Fig. 2) projecting from the north wall of the court. This was constructed of bricks measuring 20 x 13 x 3-6.50 cm in size. It was a later addition to the wall, for the base of the buttress rests upon the footing. Its real use is difficult to understand, as the wall behind it shows no signs of having needed such a support. Pieces of gypsum plaster about 1 cm thick were found just above the footing here, but they can hardly have formed part of the paving of the court, as they were found only in one spot. They had probably fallen from the walls, especially as they are quite thin.

On the eastern side of the court, part of a later column of mud brick still stands, measuring 70 cm in diameter and constructed of bricks whose dimensions are 23 x 15 x 4-7 centimetres. These bricks are practically the same size as those used in the walls of the court and also of the whole building. Yet the base of the column does not go below the footing of the walls, which proves that it was not included in the original design of the building. It is possible that there was once a kind of portico here the roof of which was supported by three columns. For with only the column in question—which it should be noted is exactly central—the span on either side (7.25 m) would have been too wide to be properly bridged by a beam.

This courtyard appears to have been once paved with burnt bricks—a necessary procedure as it was open to the sky. Remains of this flooring were found in the south-east corner, made of well-burnt bricks measuring 27 x 16 x 5-6 centimetres. By their flatness and their unusual size we are led to believe that these bricks were especially made for flooring purposes. They were laid three deep in mud with a little bitumen here and there,[10] and the average thickness of this part of the flooring was 21 centimetres. Whether a thickness of three bricks was used to pave the whole court or only this one part it is impossible to say. This courtyard seems to have been open for some time, as it was filled with large masses of brickwork, recognized as such by the bricks in them. Its walls must once have reached to a considerable height with the result that they eventually toppled into the court, but not before most of the paving had been removed—doubtless to be used elsewhere.

Doorways in the four sides of the court lead into various chambers which were perhaps used as store-rooms; for, with the exception of chamber 14 on the east, none of the doorways was provided with recesses for doors. These chambers which are of little interest were paved with either baked or unbaked bricks.[11]

Measurements of the following are given for reference, beginning at the north of the court: chamber 4, 11 by 3.20 m; chamber 3, 11.80 by 3.20 m; chamber 2, 11.80 by 3 m; chamber 17, 10.90 by 3.10 m; chamber 18, 10.50

by 2.90 m; chamber 19, 6.60 by 3 m; chamber 20, 7 by 4.40 m; chamber 7, 4.75 by 3.10 metres.

In chamber 18 there were traces here and there of a burnt-brick pavement, of bricks measuring 27 x 16 x 5-6 cm, the same size as those of the court. The paving of chamber 19 was complete; and again of bricks of the same size as those of the court. An unusual feature of this room was the brick lining to the walls, the wainscot thus formed consisting of bricks laid on edge, of which about 8 cm appeared above the level of the pavement. In this chamber also a limestone dish (Plate XXXVII, Fig. 1) was found broken into many pieces. It appears to be of the same date as the second occupation of the building.

Leaving the courtyard we now enter chamber 14, which measures 3.85 by 3.10 metres. Its walls show traces in many parts of having been heavily coated with a white stucco. A thick layer of charcoal was found just above what remained of a burnt-brick floor. The presence of this charcoal is difficult to understand; it must have come there before the pavement was robbed of its bricks. The walling at the west of this chamber is curiously thin as compared with the other three sides, and in it recesses were built to accommodate a door. It should be noted here that through this room alone could access be had to the great court from without the building.

Through a plain entrance at the north of room 14, a square chamber (13) is reached which measures 3 by 3.10 metres. Such a chamber as this, which guards the line of communication, as it were, between the courtyard with its chambers and the more important parts of the building on the east, may have served the purpose of a guard-house.

The next chamber (No. 15) shows some interesting features. On the floor was found what appears to have been a hearth, laid against the wall and protected from it by a number of burnt bricks laid on edge. On the east of the hearth was a low wall, 33 cm thick, standing 50 cm above the floor of the hearth. One would have expected a similar wall on the other side, but it was only represented by a single layer of plano-convex bricks. A photograph of this hearth may be seen in Plate XXXI, Fig. 3, but through a mistake it was unfortunately taken before a shallow basin made of broken pieces of plano-convex bricks and sunk below the floor of the hearth was cleared out. This was 35 cm in diameter and 20 cm deep.

On the badly wrecked paving of this chamber, two pieces of copper, which appear to be ingots, were found together with six water-worn pebbles, marked with lines, that were evidently used as weights (Plates XXXVIII, Fig. 2 and XLII, Figs. 10, 11, 12, 13, 14 and 15). The chamber measures 7.85 by 3 m and its northern wall shows conspicuous traces of having been much rubbed by people as they passed, doubtless avoiding the fire. It must be remembered that everyone going to the great court had to pass this way. This hearth may, of course, have been used for preparing food, but the presence of the copper ingots and the weights strongly suggests an armorer's shop. A big fortress-palace such as this would quite possibly have had a resident smith provided with the means of repairing weapons and other implements.

To the east is a small chamber (16), which has a recessing for a door. The dimensions of this room are 40.50 by 3.20 m, and it is paved with roughly made, badly baked bricks measuring 25 x 14 x 3-5 cm—an unusual size. The base of the wall was thickly coated with bitumen all around to a height of 25 cm above the paving, evidently to serve as a wainscot which would protect the mud walls from damp when the pavement was washed down.

A passage (9) runs north from chamber 15, with two rooms on either side of it. As in chamber 16, bitumen plaster was used as a wainscot, though there are no traces of its having been paved with burnt brick. On the west, a plain doorway leads into the connected chambers 8 and 12, about which there is nothing to record except that they were paved with unburnt brick and measure 3.80 by 3.70 and 3 x 36 m, respectively. Chambers 10 and 11 on the east were evidently of more importance. Chamber 10 measures 3.20 m square, and has a door on the side of the passage. No trace of a burnt-brick pavement was found, but the presence of a large amount of ash and charcoal suggests that wooden articles were at one time used or stored here. The walls in many places, especially on the west, show traces of having been coated with a thick white stucco. Chamber 11 measures 3.10 m square; its walls also were plastered with white.

A simple doorway at the end of passage 9 gives entrance to a long apartment (5), which was at a later period divided into portions. The walls of this chamber, though denuded down and covered by but a trifling depth of soil, were in a remarkable state of preservation. The eastern portion of the chamber bears very marked traces of burning on its walls, whereas in the western portion the walls were remarkably clean. Again it should be remembered that through this room alone could the court and its adjacent rooms be reached. A last desperate defence of the palace would have been made at this point. The floor of this chamber was of thin bitumen plaster laid over a paving of crude brick. At the eastern end of room 5, a plain doorway leads into the long passage numbered 22 on the plan—the passage that encircles the building on all four sides. For some reason, the eastern section of this passage was divided into two in the middle by a pair of buttresses which were evidently later additions, for their bases rest on the projecting footings of the walls. The bricks of which they were constructed were, however, of the same size as those of the walls. These buttresses resemble those in chamber 5, and were probably built for the same purpose—defence.

The sides of the passage were thickly coated with a bituminous composition to a height of 45 cm above the level of the floor. The only paving found was of crude mud brick. It is unlikely that there was once a burnt-brick pavement here; for, if it had been removed, the bitumen wainscot would have been damaged in the process. The southern end of the eastern section of passage 22 communicates with chamber 21 by an entrance which was never fitted with a door. This chamber, whose dimensions are 5.20 by 3.20 m, cuts right into the inner wall of the palace, reducing its thickness very considerably. Whether or not it was thought the resulting thinness of the wall might be a source of danger, a curious addition was made to it on its southern side. A strip of wall measuring 9.30 m in

length by 1 m in thickness was built up against it, the total breadth of the two walls being about equal to that of the inner wall that runs around the building; that is, the one into which the chamber had been extended.

The enlargement of chamber 21 seems to have been done at the time the annex was added to the palace; for the compensating strip of wall was built of bricks which measure 21 x 15.50 x 4.50-7 cm, and its base rested on the foundations of the wall against which it stood. The group of chambers lying to the east of passage 22 are of particular interest. The room to the north of chamber 26 and the end of the long passage have most unfortunately been entirely denuded away, so that it will never be known exactly how the original entrance to this huge fortress-palace was arranged. The means adopted for its defence must have been of great interest.

Communicating with passage 22 to the east is a large chamber (24) whose dimensions are 7.90 by 3.80 metres. It was paved with crude brick and had plain mud-plastered walls. Chamber 23, with which it communicates to the south, was paved with burnt bricks of two sizes, 24.50 x 17.50 x 4-4.50 cm and 23 x 14.50 x 5-6 cm, respectively. The use of two sizes of bricks in such a small chamber as this is curious. It suggests either that it was not at first intended to pave this chamber, or that the supply of bricks ran out. The larger bricks have rough projecting bases, which look as if the mould had been pressed into the clay instead of the clay into the mould. However, the bases are covered with traces of chopped straw, though this material was not used in the making of the bricks.

Chamber 27 into which 23 opens to the south is of curious construction. It cuts heavily into the great outer wall, which could hardly be part of the original design. The chamber was probably enlarged when the big southern annex was added to the palace, and this portion of the wall was no longer on the outside of the building. The enlargement was obviously for the purpose of making a doorway into passage 28.

This new entrance to the large western wing of the palace may have been made merely as a matter of convenience when the southern wall was covered and protected by the building of the annex. On the other hand, there is a possibility that it was a matter of necessity. It is quite conceivable that at some period, as yet unknown, a successful attack was made upon the palace, when entry was forced to the north of chamber 26. On the reoccupation of the palace, the breach may have been blocked up by a mass of masonry which also cut off the entry to the western wing, thus necessitating a new entrance through passage 28 and chamber 27. If this were so, the repaired breach has since disappeared with the whole of the north-eastern portion of the palace, and we are left in the empty region of speculation. Unfortunately, the walling here is much weathered; no bricks could be recovered in sufficiently good condition to be measured.

There is little of note about passage 28, except that its walls were plastered with mud and that it had a flooring of sun-dried brick. On the right-hand side of the passage looking north there was a recess in the wall, measuring 55 cm in length and situated 1.05 m above the floor. This recess was probably used for a

lamp to light the passage at night. No trace of smoke was found anywhere in the recess, but this was hardly to be expected after such an enormous lapse of time. On the west, the passage leads into chamber 25, the dimensions of which are 3.70 x 3.70 metres. This was evidently a chamber of some importance, as it was fitted with a door. Chamber 26 to the north was probably entered from a room which opened into the same passage, but its northern wall is unfortunately entirely denuded away. To the east of passage 28 and entered from a blind passage at right angles to it is the complex of chambers 29, 30, and 31.

Chamber 29 was most uninteresting; it was paved with crude mud brick, and had plain mud-plastered walls. Its dimensions are 8.10 by 4.10 metres. The chamber by which it is entered (30) had several interesting features. At the western end there were found three large pottery jars, of very coarse paste and imperfectly baked, which were coated with bitumen both inside and out. They were bowl-shaped with flat, thick rims, and were strengthened at intervals by a slight projecting ribbing which was roughly ornamented with notches made with the finger. These vats, which average a metre in diameter, were partly supported by plano-convex bricks placed around them on the mud floor to prevent their rolling. Another jar of the same size and kind was found in the north-east corner of the chamber (Plate XXXI, Fig. 2).

The middle of the room was heavily paved with thick plano-convex bricks which measured 23.50 x 14 x 4-5 cm and 25 x 15 x 4-5 centimetres. The majority of these bricks were plain, but a few had a single thumb-mark in the centre. The cement used was mud with a little bitumen here and there. The floor, despite great irregularity, seems to be of the same date as the walls of this chamber, but whether the jars are of the same date is difficult to say. The brick paving was in some places 72 cm thick, some of the bricks being on edge, others lying obliquely, and still others flat. The fact that the paving does not extend beneath the jars, being cut off here in a straight line, suggests that they were in place or their position decided upon before the bricks were laid. A considerable amount of white plaster was found adhering to the walls.

Chamber 31 on the other side of the blind passage also possessed many interesting features. They were, however, found disturbed by intrusive burials and kilns dating to about 3000 B.C. In the first place, four large blocks of limestone were found on the mud floor, two of which are so regularly placed with regard to one another as to lead one to suspect that this chamber was once paved with stone. The average thickness of these blocks is 17 cm, and their average length 78 centimetres. They were roughly smoothed, but no tool marks are visible. The level at which they were found—just above the footing—would also suggest their having been used for paving. At the south-east corner of the same chamber were the remains of a brick pavement, of which the bricks average 23 x 15 x 5-6 cm in size. It is difficult to understand the presence of remains of both brick and stone pavements unless the limestone blocks belong to an earlier and the bricks to a later occupation. The levels of both were practically the same (19 cm below zero-datum line).

A curious platform, 3.60 m long by 3.20 m wide, was found in the northwest corner of the chamber. It is entirely constructed of plano-convex bricks averaging 23 x 13.50 x 4-6 cm, laid nine courses deep. The wall against which the platform is set was also lined with bricks, four courses high and one brick thick. Mud was used for the mortar with bitumen in a few places, and exposed sides of the platform were heavily coated with bitumen. This platform may possibly have been a sleeping bench, as its height above the footing was 55 centimetres. Another alternative is that it was a stand for pottery. The fact that it is of early date is proved by burial 23 being placed upon it. When this platform was demolished to ascertain its structure, a well-preserved unbaked tablet was found beneath it, inscribed with very archaic characters. This tablet is shown in Plate XXXVI, Figs. 10 and 12. Chambers 29, 30, and 31 are bounded on the east by a wall 3.90 m thick. This wall corresponds with the outer wall of the palace and is evidently part of it, though how far it extended to the north it has been impossible to find out owing to denudation.

On the other side of this wall is what is perhaps the most interesting feature of the palace, namely, a flight of steps which must have led into the most important part of the building. Unfortunately, however, this portion of the palace has been almost entirely swept away by weathering. The steps are eight in number. The width of each tread is 31 cm and the height 15 centimetres. The total rise from the level of the pavement to the top step is 1.28 m and the width of the stairway 2.35 centimetres. The bricks forming the steps measure 20.50 x 13 x 3.50-5 centimetres. They were unkaked and laid in mud mortar. It was impossible to ascertain whether the stairway was built of solid brickwork or filled with rubble in the middle, for this would have entailed its partial destruction, and the information gained would be of little real value. The steps show surprisingly little wear, and they must have been covered with either wood or copper. The latter is the more probable, as it could be removed on account of its value without leaving any trace behind, whereas a wood or burnt-brick covering would have left some trace behind (PlateXXV, Figs. 1-3). On mounting the steps, a spacious entrance (34), 3.10 m wide, leads into a vestibule (33) of the same width, from which doorways open into other chambers and passages to east and west. Unfortunately, owing to denudation, no trace of the upper walling of that part of the building lying to the west and north of 33 could be found, though the foundations (denoted by dotted lines) are well preserved. On the east, however, three chambers (36, 37, and 38) with their doorways have been traced.

The walls of chamber 33 were found on excavation to have been beautifully plastered with white stucco and paved with burnt bricks measuring 23 x 14.50 x 4.50-6 cm, set in bitumen. Traces of bitumen on the top of these bricks suggest that bitumen was also laid over them. The walls of the chamber averaged only 40 cm in height; but we were fortunate in being able to recover as much as we did. Chamber 36 measures 9.50 m in length by 3.70 m in width. Its walls also were stuccoed, but there was no trace of a flooring of brick. The same is true of chamber 38 whose dimensions are 9.40 by 3.70 metres. The narrow passage

(37) from which this last chamber is entered is 2 m wide, and is lost by denudation toward the north. A large chamber (35) to the north of the vestibule was found only by means of its foundations. Its walls and doorways have long since disappeared, together with its contents. It was slightly to the north of this demolished chamber and just below the surface of the ground that the fragments of the fine inlaid plaque illustrated in Plate XXXV, Figs. 2 and 3, were found. This plaque is described in the chapter on the objects discovered in the palace. It is possible that it once formed part of the mural decoration of this chamber. Beyond were again found the finely worked fragments of mother-of-pearl inlay, of which also a full description is given elsewhere (Plate XXXV, Fig. 1).

It will be noticed that the walls on either side of the steps are exceptionally thick and massive. There must once have been towers here for the protection of the entrance. In addition to being stepped for enfilading purposes as well as for symmetry, these walls were ornamented at intervals by stepped recesses, which measure 40 cm in width by 20 cm in depth and end below in a shelf, 35 cm wide, at the level of the top of the stairway (Plate XXV, Figs. 2 and 3; see also conjectural restoration in Plate XXXIV, Fig. 1).

A most unusual feature was observed on the outside of the building to the east of the stairway. This is a buttress which follows the outlines of a deep recess in the wall here. It seems to have been provided to prevent this portion of the palace wall from falling outward. The bricks of which this buttress was made measure 20.50 x 13.50 x 3.50-5 cm, that is, they are exactly the same size as the bricks forming the stairway and the annex. To relieve this ugly, but perhaps very necessary addition, roughly formed window-like recesses were provided, averaging 24 cm in width by 13 cm in depth by 40 cm in height. These, as will be seen from Plate XXVIII, Figs. 1-3, were arranged in rows, three of which are preserved in the middle portion of the buttress. Each row is 57 cm distant from the one above or below it, and the horizontal distance between the recesses averages 78 centimetres. For some reason or other, which it is difficult to fathom, each recess was completely filled up with burnt bricks, whole and otherwise, and then plastered over with mud to conceal them. The bricks thus used measure 21 x 14 x 3.50-5 cm, practically the same size as those of the buttress itself and the stairway, and all are probably of the same period.

It is possible that this buttress, which is very badly built, was constructed by an untrained mason. Unable to copy the stepped recessing used for decoration he may have substituted a design of his own, which not being approved of, or being weakening to the buttress, was eventually concealed. All these recesses were found plastered up, and were cleared for thorough examination, one only being left with the bricks in position for the purpose of illustration.

The base of the buttress is 165 cm below datum. Before it and 10 cm above the base of the buttress there were remains of a pavement of crude mud brick two courses high. The presence of traces of bitumen here and there shows that either there was once a layer of bitumen over the mud-brick pavement, or that it was covered by a layer of burnt brick set in bitumen. Fragments of similar paving

were found elsewhere in the large open space before the stairway of the palace. A portion of this paving may be seen in the foreground in Plate XXV, Fig. 2.

The size of the bricks, averaging 20.50 x 13 x 3.50-5 cm, of both stairway and the walling in its vicinity is difficult of explanation. These bricks agree in size with those used in the great annex to the south of the palace to be described below. At first sight it would appear from this fact that the annex and the portion of the building which includes the stairway are of the same date, both being later additions to the palace. If we turn to the level for corroborative evidence, we find on examination of the section along line E-F (Plate XXIII) that the matter turns upon whether the footing of the colonnade was part of the foundations, or was above ground level and intended to be seen. If the latter were the case, then annex and stairway might well be of the same date, but the section C-D shows the footing of the pillars actually to be part of the foundations of the annex, and the explanation of the bricks of the two buildings being of the same size must therefore be sought elsewhere. The annex is presumably of later date than the stairway, being higher in level, and the regulation size of bricks probably remained unaltered for a considerable period of time.

In connection with the above, the southern face of the great outer wall of the original palace already described will perhaps be helpful. The wall, before the annex was built alongside it, must have been exposed—perhaps for a considerable time—to a great deal of weathering by the strong dust-laden winds from the south-east. When the annex was built, the weathered face of the wall formed one side of the passage between the two buildings; and to make both walls of the passage alike the builders of the annex added a thin facing of sun-dried bricks to the older wall. The bricks of this facing measure 20.50 x 13 x 3.50-6 cm, and are of exactly the same size as those used in the building of the annex—another proof that the latter was of later date. This brick facing rested upon the footing of the older wall and projected beyond it for 20 centimetres. The facing was removed with ease throughout its length in the excavation of the building. Its average thickness was 47 cm, but owing to the weathered condition of the older wall it was thicker in some places than in others.

The passage between the two buildings was blocked up at the western end by a mass of sun-dried brick which appeared to have been set slightly into the wall north of it for the purpose of bonding. This mass is rectangular in shape and measures 2.75 m E.-W. by 2 m N.-S. The size of the bricks used in its construction was 21 x 13.50 x 3-5 centimetres. Here, no doubt, there was once a door by which perhaps a privileged few were allowed to enter instead of having to go right around the building. This door was guarded on the south by a tower which enfiladed it. That it was recognized that such an entrance, however well it was protected, was a source of weakness is proved by the fact that when this portion of the palace was cleared, the door was found to have been blocked up, the bricks used being of the same size as those in the jambs of the door. Following along this passage, which was paved with crude mud brick and, therefore, had once been roofed in,[12] we found that it was also blocked at its eastern end, apparently at the

same time as the doorway was bricked up. A little farther to the east there is a thin wall across the passage with an entrance through it on the north. The foundation of this wall is 1 m wide, and it must be part of the original design of the annex. The passage then continues until a very narrow entrance is reached, whose constriction is the result of the projection of a tower of the eastern wing of the building. Close to this entrance was found a large block of limestone of irregular shape measuring roughly 74 cm in length by 45 cm in its widest part and 10 cm in thickness. Its upper and lower surfaces are fairly flat and show natural cleavage. This block closely resembles the similar blocks on the other side of the wall in chamber 31. They possibly all formed part of a stone paving outside the building, which was taken up and removed when the palace fell into decay.

The annex, as has been pointed out, is a later structure than the building to the north of it, and shows features not present in the older building. Taking its western portion first, it will be noticed in the plan that, though its walls were not so thick as those of the earlier building, yet it seems to have been more strongly fortified both as to inner and outer defences. The presence of numerous towers along both walls suggests that in later times more reliance was placed on archers and slingers than on walls of super-thickness. If this be correct, it shows that the warfare at that period was becoming more scientific and less a matter of brute force.

The thickness of the outer curtain wall was 2 m and it was provided on the outside with towers averaging 2.50 m in width and projecting 30 cm from the face of the wall. Narrower towers on the inside, with rather more projection, alternate with those outside (Plate XXXIII, Fig. 1). The inner ward averages just under 2 m in thickness, but is re-inforced on the outside by towers, of which the first two from the north are opposite the inner towers of the outer ward. Toward the south, there is a considerable thickening of the inner wall which can only mean that an unusually large tower was placed there. The space between the two wards (43) communicated by two entrances on the east with a fine columned hall.

Both the inner and the outer wards show signs of much burning, and a thick layer of ash covered the ground between. The walls were also in a very damaged state, and show positive signs of having been breached in many places. Hence it is clear that one of the main attacks on the palace took place from this quarter. The facts that the walls were so badly burnt and that there was a layer of ashes on the floor prove, in my opinion, that this corridor between the two wards was at one time roofed over unlike the space between the two wards of the building to the north. To the south of the entrances to the columned hall, a room (44) was divided off from the corridor by a comparatively narrow wall whose footing shows it to be part of the original design. The southern wall of 44 was only just discernible, and measured 1.60 m in thickness. A portion of it had been repaired with burnt brick—an unusual feature, which is, however, also found in chamber 31 to the north. Beyond this to the south all traces of walling have disappeared through denudation, and a large portion of the building has been lost forever.

The pillared hall (5) is perhaps one of the most interesting apartments in the whole palace. It measures 26.70 by 7.60 m, and is well built throughout. Down the centre there are four columns, measuring 1.50 m in diameter, three of which are exceedingly well preserved; but the one at the south could only be traced, for it was almost completely weathered away. The most northerly column now stands 1.80 m above the burnt-brick pavement, and the southern one just below the pavement, the four diminishing in height with the slope of the mound beneath which they lay (Plate XXVII, Figs. 2 and 3).

The bricks of which the columns are composed are unbaked and rhomboidal in shape, measuring 35.50 cm in length by 21 cm in width at their broader ends and 7 cm at their narrow ends. They are unusually thin, only 7 cm, and are flat on both sides.

They would seem to have been made expressly for these columns, and from their extraordinary thinness as compared with their size we must conclude that they were not brought from any great distance. The broader end of each brick was slightly curved to conform with the circumference of the columns, which was 4.50 metres. These bricks were made of a sandy clay without any straw, and mud cement was used. The distance between the columns was 4.50 m, the same as their circumference; but the distance between the end columns and walls is rather less. Between the third and fourth columns from the north there is a cup-shaped depression in the pavement, measuring 88 cm in diameter at the top and 50 cm at its base, which is flat. This basin is made entirely of burnt plano-convex bricks, some broken and some whole, and it is thickly plastered with bitumen inside. The top of the basin was flush with the surface of the paving into which it was built. The second column from the north was damaged on its western side by a burial (No. 46).

It will be noticed that these columns are not placed quite centrally down the axis of the chamber, there being an error of 40 cm in favor of the western side. The fact also that there is no footing to these columns suggests that they were a later addition. It was probably originally intended to span this chamber without the use of columns—an idea which had subsequently to be given up owing to the difficulty of procuring beams that were long enough. This chamber was at one time entirely paved with plano-convex bricks, patches of which still remain here and there, set in some places in bitumen, in others in mud. The bricks employed were of various sizes, measuring 24 x 16 x 5-7 cm, 23 x 16 x 4.50-5 cm, 23 x 14 x 4-6 cm, and 21 x 14 x 4-6 centimetres. Those of the last two sizes had a thumb-mark in the middle of each brick. In some places this pavement is only one brick thick, in other places no less than three courses were laid to get the proper level. This paving may have been done after the roofing was completed, so that it was thought better to level up the floor with extra bricks than to bring earth for the levelling from the outside. The levelling was good on the whole, the error between the different portions of the paving at the southern end of the chamber being only 8 centimetres.

The few bricks that remain of the pavement in the northern part of the chamber stand 27 cm higher than the paving at the south. Doubtless there was an intended slope toward the south that water for washing down the pavement might drain away. Search was made for a drain, but without success. This, however, is hardly to be wondered at considering that so much of the pavement has disappeared. Around the base of a portion of the third column from the north there appears at first sight to be a remnant of a burnt-brick casing. This, however, on closer examination proved to be part of the pavement. No trace whatever was found of anything that could possibly have formed a casing to these columns. It seems hardly likely, however, that crude-brick columns, as exposed as these were, were not protected by a hard covering, such as wood or copper. If wood was used, it would have been burnt with the building. Copper would have been stripped off and taken away as booty. It has also been suggested that these columns were covered with inlay set in bitumen composition; but if this system of decoration had been used, pieces of the inlay would surely have been found in the chamber, and of this, unfortunately, there was not a trace.

The purpose of this chamber is difficult to explain. Its proximity to the outer walls, I think, precludes its being a royal apartment, which would more likely be situated in the interior of the building both for safety and for privacy. I would suggest that this hall was a barracks for the palace guard, with the two doorways at the west to provide rapid access to the walls in the event of an attack. The fact that these doorways were unprovided with recesses for doors supports this suggestion and rules out the possibility of this hall being the private quarters of anyone of great importance.

Chamber 55, which is entered from the pillared hall and served as a passageway between it and the rest of the annex, measures 14.50 by 5.60 metres. It presents little of interest beyond the fact that a quantity of pieces of plaster were found scattered over the floor on a level with the top of the footing. The average thickness of these pieces, 2.50 cm, precludes their having been the plaster of the walls. They must be, therefore, the remains of a plaster pavement, which is borne out by a similar pavement being found in another large building at Kish of the same or possibly earlier date. The walls of this chamber were heavily coated with mud plaster, which was whitened. Lying on the ground of this chamber were three basalt querns in good condition (Reg. Nos. 1619-1621). Chamber 58, into which doorways led from both the large hall and chamber 55, was found in a very dilapidated condition, and its walls could only just be traced. No trace whatever of a pavement could be found, and if there ever was a burnt-brick floor in this room, it must have been entirely removed in ancient times. Giving access to chamber 55 from the east is a narrow chamber-passage (57), whose dimensions are 9.60 by 2.60 m and about which there is nothing of interest to report.

Chamber 60, which is entered from this passage to the south, measures 4.20 by 2.60 metres. Its floor is partly covered with burnt bricks, whose dimensions are 2 x 15 x 4-6 cm, with a rather pronounced convexity. There were traces of

very thin stucco on the walls, and several pieces of thick pavement plaster were found below the burnt-brick paving—a fact which suggests a second occupation. The adjoining apartment (59) was entered from another passage at the south which is lost through denudation.

The small hall (61) measures 10.70 by 3.70 metres. Though in a poor state of preservation, its walls show traces here and there of being at one time covered with a white stucco. For some reason this hall was divided into two portions, and the eastern end of the dividing wall rests upon the footing, showing that it was a later addition. A quantity of most interesting inlay was found lying along the foot of the northern wall of this chamber, together with numerous pieces of slate which once formed the background of the inlay. This inlay, which is described in the chapter on objects found in the palace and illustrated in Plate XXXVI, Figs. 1, 3-6, was associated with broken pottery of simple cuplike form and also more elaborate types, such as spouted jars. A small button of iron was found adhering to one of the slate fragments; it was pointed out to me by Colonel Lane before it was removed from its position (Plate XXXVI, at base of Fig. 2). This and two similar fragments found near-by are discussed in the chapter. It is certain that the strata here were untouched and that the iron was not a later intrusion. In the south-west corner of the hall there were the remains of a pottery drain consisting of four segments, each 37 cm high and 72 cm in diameter. Each segment had a thick rounded rim at the top and the bottom, and the thickness of the pottery midway between was 1.50 centimetres. The lowest section rested on the mud-brick floor of the hall. In removing this drain, the exceptionally well-preserved adze or hoe was found which is illustrated in Plate XXXIX, Fig. 2.

A small portion also of shell inlay lay in the middle of the chamber and along the northern end of the west wall. It would appear that it had fallen from the walls, but from what part, whether high up or low down, it is impossible to say. From the damage done to the animal figures of which the scenes were mostly composed there is every reason to suppose that the inlay was torn from its slate setting and maliciously broken up. Portions of it, for instance, figures of deities and kings, may even have been carried off. The position of this chamber in the palace, together with the portico before its entrance, would justify the assumption that it was a reception room for visitors of note waiting to see the royal occupant of the palace. The narrow passage 56, it will be seen, leads to four rooms which appear to have been used as store-rooms. The first of these (53), the dimensions of which are 6.70 by 4.10 m, has nothing of note about it, except that the bones of an ox, which were in a very bad condition, were found in the middle of the room, just above the level of the base of the footing.

Chamber 52 beyond measures 6.60 by 4 m and was paved with crude mud brick. An interesting feature was the presence in its north-west corner of a large vat made of coarse, badly baked ware of a greenish color, thickly coated with bitumen inside and out. The heavy rim averaged 5.50 cm in thickness and height, and the body of the vat was strengthened at intervals of about 15 cm by hori-

zontal ribbing roughly notched to represent a rope. The vat had a rounded base and measured 112 cm in diameter and 75.50 cm in depth. Its average thickness was 2 centimetres. As the rim was 12 cm above the level of the footing, it must have been on a level with the mud pavement which was missing in this portion of the chamber. There was apparently some danger of people falling into this vat in passing through this room, and this was obviated by building a thin wall, whose base rests partly on the footing, to act as a guard.

Room 51 measured 6.60 by 3.80 m and was paved with burnt bricks of two sizes, averaging 24 x 16 x 3.50-4 cm and 20 x 13.50 x 3-6 centimetres. The former is the size of the bricks used in the building of the original palace, and it is clear that the builders of the annex did not hesitate to use material taken from buildings of an earlier date. The floor of this room slopes noticeably toward the north, the drop being as much as 20 cm in the width of the chamber. The doorway in the north of this chamber seems to have been a later addition. For some reason or other chamber 46 does not communicate with chamber 47, as one would expect. I should imagine that originally there was a doorway between the two and that it was subsequently blocked up, an entrance to chamber 46 being made from 51 instead. This new doorway must have been cut from chamber 51, for the mistake was made of cutting partly into the wall between rooms 46 and 47—an error probably due to miscalculation. Owing to the bad state of the brickwork it was impossible to detect any signs of the blocking up of the old door, and the presence of a burial of later date in the wall between chambers 46 and 47 further confused matters. The dimensions of chamber 46 are 9.10 m by 3.70 m and it shows no features of interest with the exception of its doorway.

The adjoining chamber (47) is of the same size. It is entered from 48, which is a little wider (4 m), though of the same length. This latter chamber is entered from 49, which is 9.30 by 6.90 metres. This fine room and Nos. 46-48 would appear to have been used as store-rooms, for the floors of the whole series are of unbaked brick. It is an open question whether these four were ever supplied with doors. If so, the doors must have been of the simplest nature. A peculiar feature of rooms 47-49 was that numbers of bones of oxen were found in them at a level above the footing. Quantities of ash were found with these bones, though none showed any signs of having been burnt. The fact that these bones, from all parts of the body, were mingled pell-mell in the chambers would preclude their being ordinary interments. Whether they belong to the same period as the building is difficult to say; but burial 55 was found lying above them, which proves that the deposits of bones are of earlier date than the graves, which are dated to about 3000 B.C.

Proceeding to the east from chamber 49, a narrow passage (41) is reached, which is 2.60 m in width. Into this passage chamber 54, which measures 6.50 by 4.40 m in the middle, opens from the south. This chamber is slightly out of the square, as is also room 53, though not to such an extent. This is due to their northern and southern walls not being parallel. In chamber 54 a pottery jar was found, 54 cm in diameter, with a thick rim and no neck. This jar was in an

upright position with its rim 16 cm below the base of the footing, itself 190 cm below the datum level. Nothing whatever was found in the jar, and its position can be explained only by its being at one time used to supply water to the builders of the annex and then left in its original position. Unfortunately, owing to a mistake on the part of the pickman who cleared this room, this jar, which fell to pieces when extracted, was not brought to the camp to be drawn.

Chamber 50 is a trifle askew and measures 5.90 by 4.90 metres. Its walls are exceptionally well preserved, especially on the northern side, the outline of each brick showing clearly after the plaster covering had been removed. The bricks are of the usual size, 20.50 x 13.50 x 4-6.50 centimetres. At a level with the footing, a quantity of white plaster was found, which may once have formed a pavement, or have fallen with the roof when the latter fell in; in any case, it was too thick to have come from the walls.

Chamber 40 measures 5.60 by 5.20 metres. The thinness of the wall that separates it from room 50 is unusual. It may be that the two rooms were originally one, which was subsequently divided to make two smaller ones. If this be so, the building of the annex had not advanced sufficiently to prevent this wall having the usual footing.

The long portico numbered 42 on the plan is, as far as is known at present, unique in Sumerian architecture. Its inner portion measures 19.60 by 3.10 metres. It was open to the air on the eastern side, where there were four massive columns, constructed entirely of unbaked mud brick, for the support of the roof. Such a piece of architecture proves beyond doubt that the Sumerian realized the value of the column as a decorative feature as well as for its utility. The columns were in a remarkable state of preservation, although denuded down to but a small fraction of their original height. Their average height is now 70 cm above the level of the footing upon which they stand. Each column was constructed of sun-dried bricks, rhomboid in shape, measuring 17 by 24 centimetres. The smaller end of each brick is 14 cm wide, and its thickness 3.50 centimetres. As in the case of the pillars of the hall (45), the wider end of each brick is slightly curved to adapt it to the curvature of the column. Each column is 1 m in diameter, and the bricks of each layer were arranged in an outer ring of eleven, inside of which was another ring of five, and the space in the middle was filled in with a single brick. This arrangement can be seen clearly in Plate XXXII, Fig. 3. The cement used was the same mud as was used to make the bricks, and this, combined with the heavy weight of the column, has compressed bricks and mortar into a practically homogeneous mass, from which separate bricks are extracted with difficulty. The face of each column was coated with thin mud plaster, and it was noticed that, when this had undergone a certain amount of weathering after the excavation of the columns, the outlines of the bricks were clearly distinguishable. It would seem that the plaster with which the columns were faced was carefully rubbed into the interstices between the bricks and not their faces, thus giving the columns the appearance of being of brickwork—an appearance which can be given to sun-dried bricks as well as to baked bricks, though in a lesser degree.

Columns in such an exposed position as these were must have been covered with a waterproof material, such as burnt brick or bitumen. Though there were no indications of either the one or the other in the immediate neighborhood of the columns, a few burnt bricks were found a little south of the stairway, of the same shape and dimensions as the crude mud bricks of the columns. As there was no apparent reason for their position, we may perhaps assume that they were merely dropped there. One of these bricks is shown in Plate XXXII, at the base of Fig. 1 on the right-hand side. It would seem, therefore, very probable that these columns were at one time covered with burnt brick. If so, their diameter, instead of being 1 m, must have been at least 1.35 metres. It is indeed possible that two thicknesses of burnt bricks were used. If so, allowing a little for the thickness of the mortar, the face of each column would be brought within about 17 cm of the edge of the walling on which they stand.

The "wall" upon which the columns stand is 1.90 m wide and 95 cm high. As shown above, it is difficult to state with certainty whether it can strictly be described as a wall and not as part of the foundations, once concealed beneath the ground. It is, however, represented as a wall which is for convenience's sake painted black in the plan. On reference to the section along line E-F in Plate XXIII it will be seen that this structure slopes toward the south, the declination being as much as 85 cm in a total length of 33.50 metres. This proves that this part of the palace was constructed on sloping ground; and for this reason alone I think that the apparent wall once lay entirely beneath the ground with no part above it.

The principal entrance to the portion of the annex that remains was from the portico through chamber 61. The relations of this part of the building to whatever rooms lay to the south will never be known, for this portion of the palace has completely disappeared. One would certainly have expected the passage 41 to have led to the interior of the building instead of to the comparatively unimportant series of chambers 47-50. There may have been another doorway somewhere, though it could not be found, a possibility being that it was anciently blocked up and masked. I would suggest that if other doorways once existed they opened from chamber 7 to 46 and thence into the pillared hall. It will never be known how the portico (42) was roofed, or even to what height the columns reached. In all probability, however, the roof was flat and constructed of mud and matting laid on wooden beams, as at the present day in Iraq; for there is as yet no evidence that the Sumerians used the dome to roof any of their buildings. It is hard to see how the building was protected from attack from this quarter, for it would seem to be most vulnerable. The most likely solution of the question appears to be that there was once a considerable space or courtyard in front of the stairway entrance to the palace, enclosed on the west by the columned portico and on the eastern and southern sides by buildings which have entirely disappeared through denudation.

It was naturally expected at first that a companion colonnade to the one at the west would be found to the east of the open courtyard, but no trace of it could

be discovered. Indeed, it is hard to think that one ever existed, for its foundations could hardly have disappeared entirely. Nor, if it had been placed symmetrically with the stairway, would the additional buttresses on the east of the stairway ever have been built. It is possible, of course, that a companion colonnade was designed but never built, owing to the fall of the palace.

Reference again to the section on line E-F in Plate XXIII will show that the higher level of the annex, as compared with the eastern wing of the palace, precluded the use of the older stairway or rather the lower portion of it. Over it a ramp was built by erecting flanking walls on either side of the stairway and filling in the space between these walls with large lumps of river-clay. The length of this ramp cannot be determined as its southern end is missing, but it need not have been of any very great length, for the distance to be traversed and the ascent were not great. It is to the existence of this ramp that we are indebted for the splendid preservation of the stairway, which was found in much better condition than the adjacent structures. The walls of the ramp were 150 cm thick and made of bricks of various sizes, these being 23.50 x 14 x 5-6 cm, 23 x 15 x 4-5 cm, 22.50 x 14.50 x 4-5 cm and 22 x 14 x 4-5 centimetres. All these bricks are of baked clay and laid in mud mortar. They were irregularly arranged in alternate headers and stretchers, there being sometimes two courses of stretchers followed by a course of headers. These walls were covered on the outside with a thick layer of mud which was thinly stuccoed. They were built upon foundations of river-clay, whose surface is indicated by a broken line in section E-F in Plate XXIII. In a distance of 7.45 m measured along this line, the rise was 1.07 m, which provided an easy ascent and descent. The photograph of one of these walls (Plate XXIV, Fig. 3) before it was removed shows the burnt brickwork clearly and also the clay foundations beneath it. In the plan (Plate XXI) the walls of the ramp have purposely been shown as incomplete to avoid confusing them with the plan of the building.

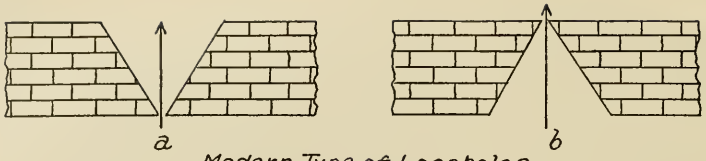
SOME MILITARY ASPECTS OF THE PALACE "A"

BY LIEUTENANT COLONEL W. H. LANE

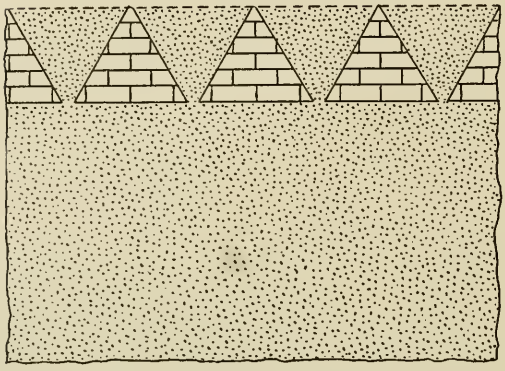
The excavations at Kish have definitely proved the fact that, at the period of the "loaf-shaped" plano-convex brick, the construction of buildings had reached a high degree of architectural skill. We may therefore conjecture, with an appreciable degree of certainty, that the skill of the military engineer had reached a standard of proficiency at least equal to that of the civil architect. In studying the military aspect of a building of this period, therefore, we should expect to find the main principles of defence skilfully applied in relation to the weapons of offence and defence extant at the time of construction.

The palace at "A," so far as it has escaped denudation, comprises two buildings—the main building and an annex.

The construction of the annex is on a much less solid basis than that of the main building. It would seem probable, therefore, that the annex contained the state apartments, such as the throne room, the audience chambers, anterooms, etc., whereas the main building contained the private residential rooms of the



Modern Type of Loopholes



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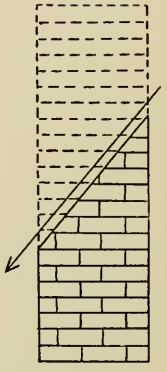
Plan of Loopholes and Wall



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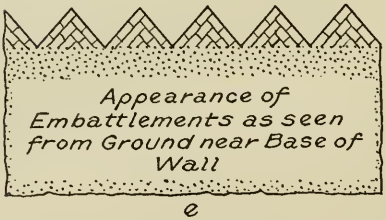
Section of Loophole



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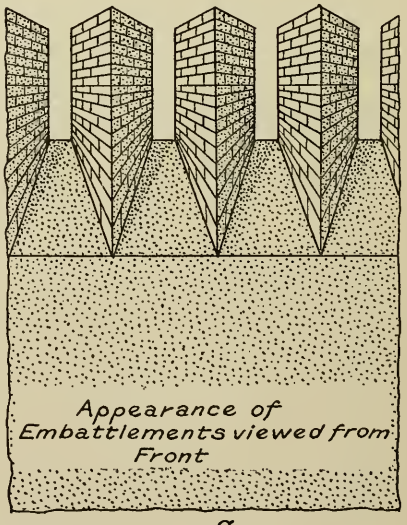

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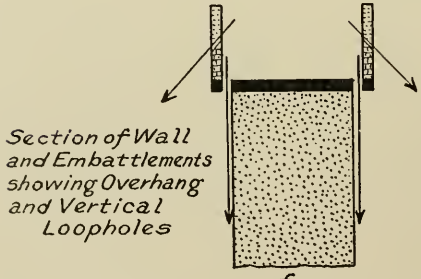


f

DEFENSIVE ARRANGEMENTS OF PALACE "A"

royal family and their court. The main building would therefore comprise the "keep." There may have been some subsidiary defences on the exterior wall of the annex, but these would not have been of the same strength as we should expect to find in the main building. Turning our attention, therefore, to the main building, of which the western wing is the only portion sufficiently well preserved to afford us any clue to the system of its defences, we see that the wing was surrounded by an outer wall 3.50 m in thickness. This outer wall must have comprised the main line of defence with a second line of defence consisting of the actual wall of the wing.

Now one of the fundamental principles of the defence of a building is that the defences of that building should be so constructed as to enable the largest volume of fire to be delivered commensurate with the size of the building. To ensure the largest volume of arrow fire being delivered from the wing, it would be necessary to arrange the defences so that two tiers of fire could be delivered simultaneously, one from the embattlements of the main line of defence, the outer wall, the other from the embattlements of the second line of defence, the exterior wall of the wing. The only possible means of obtaining two such tiers of fire, therefore, would be to make the exterior wall of the wing considerably higher than the outer wall, and in any "conjectural restoration" of the palace at "A" this point would have to be borne in mind. Another fundamental principle of defence is that all ground over which the attackers can approach should be commanded by the fire of the defenders. Therefore we may suppose that the actual embattlements were so designed that fire could be brought to bear on any part of the ground in the immediate vicinity of the wing from both the lines of defence.

How, then, were these battlements designed? First, the tops of each of the two walls would be utilized for the passage and concentration of the forces of the defenders. Therefore only the outer portion of each wall would be embattled. The next question to be considered is whether the principle of the loophole had been evolved or not. Surely previous experience of attacks on buildings would have taught the Sumerians the advantage of furnishing cover for the defenders? Previous experience would also have given them the lesson that loopholes must be splayed out to enable the defender to shoot to a flank. For, if the archer could only shoot direct to his front, then the terrain at the corners of the building could not be commanded by the fire from the embattlements. Now in modern defence of buildings loopholes can be constructed in two ways (see diagrams *a* and *b*). The principle of construction is probably as old as military science. Which method, *a* or *b*, was adopted by the Sumerians? A series of loopholes constructed as in *a* would (in plan) appear as in *c*. But in order to deliver fire at an angle downward the base of the loophole, instead of being horizontal, would be cut away as in *d* and *e*. Looking up to the embattlements loopholed as in *d* from near the base of the wall, the appearance of the embattlements would be as in *f*. This diagram is almost identical with the form of embattlements shown in the gold plaque figured in King's "History of Babylon" (p. 67).

In order to obtain fire vertically so as to shoot at an enemy who had gained the base of the wall, the superstructure, certainly at the turrets, would have to

project beyond the top of the wall, and vertical loopholes would have to be constructed as in *g*. To accomplish this, beams would have to be laid transversely across the top of the wall, a pavement of burnt bricks laid over the beams, and the pavement covered with bitumen. The sides of the loopholes and the sloping base would also be covered with bitumen to prevent weathering and to allow rain-water to drain off. In the projecting portions funnel-shaped loopholes would be constructed, and the artist who made the gold plaque referred to has apparently attempted to portray these vertical loopholes. The space between the outer wall of the wing also had its defensive advantages. In the event of the outer wall being breached, the besiegers would find themselves in a very narrow passage, where they could advance only three abreast at most; they would thus form an easy target for those defending the "blocks" at the ends of the passages; they would also be liable to have missiles dropped on their heads by the defenders on the embattlements above. In fact their position could be rendered untenable by a small section of the defending force.

The most vulnerable portion of the main building would be the main entrance. This has been recessed and stepped, thereby displaying a thorough knowledge of military exigencies; for any attack on the main entrance would be met by a frontal fire, and also by fire from both flanks, and furthermore by fire from the left rear, directed from the embattlements of the annex. So much for the details of the defences of the palace itself. In regard to the part played by the palace at "A" in the general defensive scheme of the city it is impossible to form any opinion until the city ruins have been further excavated (T and X on Map).

THE DATING OF THE PALACE

Up to the present nothing has been found in the palace or its vicinity that enables us to date decisively either the building or the graves which were dug later upon this site. We have to rely, therefore, on a certain amount of deduction to fix certain periods within which the different portions of the palace were built and the burials made. The palace is composed of two separate buildings the northern portion of which is earlier than the southern portion. This is proved by the levels of the stairway and colonnades as well as by the brickwork of the temporary obstructions that shut off part of the corridor (1) on the north of the building and block the southern end of passage 22—points discussed in the previous chapter. There is even more satisfactory proof that the larger building is the earlier, supplied by the thin facing of brickwork (described in the last chapter), which was built along its southern façade when that ceased to be an outer wall. What interval of time elapsed between the building of the original palace and the erection of the annex beside it, is not known. It was probably not so very great, and the two buildings were most likely the work of the same dynasty. The close of a dynasty in ancient Babylonia was generally marked by great upheavals, the reason generally being that a stronger man took the place of a weaker one. During such upheavals, fortified buildings, such as palaces, must have suffered considerably, and this probably led to entirely new buildings being erected rather

than the old ones being repaired. The annex therefore would hardly have been placed alongside a building of a previous dynasty.

In the preceding chapter it has been mentioned that the fragments of a fine inlaid plaque (illustrated in Plate XXXV, Figs. 2 and 3) were found to the north of chamber 35 and that close by were found pieces of mother-of-pearl inlay, which may have come from the same scene. Among the latter was the upper part of a male figure wearing an elaborate girdle, with the signs "Lugal ud Lugal," incised upon it (Plate XXXV, Fig. 1, upper left-hand corner).

There is no doubt, I think, that this inlay once formed part of the decoration of a room in the palace, which was so badly denuded that its walls have disappeared. The fact that the name Lugal ("king") occurs twice suggests that in one case it is also a proper name. From the Weld-Blundell prism it is certain that Lugal-mu was the last king of the second dynasty of Kish and that Kish was then "smitten by weapons."[13] S. Langdon and Fotheringham, by calculations into which it is needless to enter here, estimate the date of Lugal-mu as being 3500 B.C.—a date which agrees with the style of the palace and the bricks that were used to build it.

The expression in the Weld-Blundell prism that Kish was "smitten by weapons" can only mean that it was conquered by force, and the Hamasi, who were a wild people from the north, are mentioned as the enemy. It was probably then the Hamasi who destroyed the palace, breaking into it from the west through the breaches that were found in the fortified walls of the original palace and also of the annex. After this invasion the palace was left derelict for a very considerable time, as proved by the amount of mud that was washed from its walls into the chambers so that they were completely filled.

The next period of prosperity for Kish, according to the prism, was dynasty III which was founded by Kug-Bau, a female wine-seller at Kish. The date of Kug-Bau, according to Langdon and Fotheringham, is 2947 B.C. Kug-Bau is said in the prism to be contemporary with Eannatum II of Lagash, and it is to the period of the latter king that I attribute the one hundred and forty burials that were found upon the walls and in the chambers of the palace. Indeed it is possible that some of these graves may be even earlier than Eannatum, for some of the ceramic forms in them are practically identical with pottery found by Woolley at Ur, and dated by him to the period of Mesannipadda. The reasons for dating the graves to the period of Eannatum II will be fully discussed in a subsequent chapter.

There is no reason for thinking the interval of time between the collapse of the second dynasty of Kish and the starting of the third dynasty (a period of about five hundred years) too long to account for satisfactorily. The positions of some of the graves in relations to the wall of the ruined palace throw considerable light on this question. Some of the graves were found right on the surfaces of walls which were standing only a little over a metre high, walls which originally must have stood at least three times this height. There is no doubt that the burials were placed on the walls and not cut down into them; for the debris for some considerable distance around consisted of rubbish in which decayed walling

had no part. The position of such burials, therefore, proves beyond a doubt that mound "A" was left derelict for a very considerable time. At least five hundred years would be required for the weathering-down of the walls to one metre in height. Much stress is laid on this last point, for denudation in Mesopotamia, despite the winter rains and summer heat, is a much slower process than might be supposed.

To the north of palace "A" we have partially excavated a building whose site is marked "P" on the map. The pottery recovered from this building seems of even earlier date than that found in the palace. This therefore may be a building of the early part of the second dynasty of Kish, whereas the "A" palace appears to belong to the latter end of the dynasty.

BRICKS AND BRICKWORK OF THE PALACE

This chapter deals with the various types and sizes of bricks found in the palace "A" at Kish, the method of laying them, and other technical matters connected therewith. To simplify matters, the types of bricks will be dealt with first in the chronological order assigned to them by their positions in the palace.

SUN-DRIED BRICKS

All the bricks found in the Sumerian palace at "A" are of the well-known plano-convex type, being rectangular in shape with a flat base and curved upper surface, which is very pronounced so that the middle is considerably higher than the edges of the bricks. Where the sizes of these have been mentioned in this book, the expression "3.50 to 5 cm thick" means that the brick is 3.50 cm thick at its edges and 5 cm thick in the highest part.

All the sun-dried bricks found in the palace were made of the alluvial earth that covers the greater part of Mesopotamia. It is light gray in color, and is not so fat and unctuous in texture as the alluvial soil found in Egypt. For this reason, the bricks used at Kish were not of so good a quality as those used by the ancient Egyptians. The difference is due entirely to the material, not to the skill of the brickmaker. For some reason, river-clay was not used for brick-making at Kish, though it was utilized in large quantities for the filling of foundations. Such clay is excellent for brick-making, but it requires an admixture of sand to prevent cracking and distortion during the process of drying. Sand is very hard to obtain in an alluvial country, as I have found to my cost. It is probably owing to this difficulty that the softer alluvial earth was used instead. Another difference between Egyptian and Sumerian brickwork is that the Sumerian used no *tibn* ("chopped straw") with the earth to strengthen it, as was the common practice in Egypt from the earliest times. The fact that the Sumerians at Kish knew of the value of chopped straw or reeds for binding purposes is proved by their actually using it on occasion in the building of the palace; but it was mixed with the mud mortar around the bricks, not in the bricks themselves. This occurs in the temporary blocking up of the corridor between the outer and inner wards on the north of the palace—a piece of work which was obviously hastily done.

The bricks are all made in an open frame mould, such as is in use at the present day both in Mesopotamia and in Egypt. The depth of the mould averages 3.50 cm, and that it was made of wood is shown by the markings left in many cases on the sides of the bricks. The mould seems to have been laid on the ground, and the clay then placed in it. The surplus material was then patted into a rounded mass instead of being struck off with the edge of the palm of the hand. The ground upon which the bricks were moulded does not seem to have been especially selected, for pieces of pottery and other rubbish were in many cases left sticking in the base of the brick, or have left their imprint.

Mud mortar alone was used for the purpose of cementing sun-dried bricks together, and it was nearly always of a better quality than the mud composing the bricks themselves. The bricks are invariably laid with their convex surface upward, except in those cases where they were laid on their edges. The mortar seems to have been applied with the hands, not with any special kind of tool, for it is always very compact with no crevices or fissures.[14]

The use of mortar of the same substance as that of which the bricks were made caused the wall to become practically one solid mass of mud with the pressure from above. It has accordingly proved difficult to extract bricks from the wall for measurement. A section through such a wall clearly shows light gray courses of bricks set in a matrix of mortar of either the same color or, if a more tenacious clay was used, a light chocolate.

In the majority of instances bricks were laid flat with courses arranged in alternate headers and stretchers. In parts of the same wall, however, it is possible to find considerable sections where all headers were used or all stretchers. Indeed, there does not appear to have been any fixed rule, either for the arrangement of the bricks in the faces of a wall or the filling inside. A fairly common method of laying bricks seen elsewhere in Kish, but not actually in the palace, was to set them upon their longer edges, either bolt upright or at an angle; and, laid thus, they give the appearance of a chevron design. But the practice of laying the bricks obliquely all in one direction was not uncommon in the palace, and an example is illustrated in Plate XXXII, Fig. 2. It should be clearly understood that the builders of the palace never laid bricks on their edges for the sake of ornamentation. Every wall of the palace was heavily plastered with mud, and then plastered again with a white stucco.

The stucco used for whitening walls was exactly the same as the *juss* that is used at the present day in Mesopotamia, which is made by burning gypsum. The latter is found in great quantities at Iskanderieh, south of Baghdad, and also close to Samarra, where it can be picked up on the surface of the ground, and is also quarried. A number of pieces of the rock, some over a metre long, from which the stucco was made, were found just beneath the surface of the ground outside the outer wall of the palace in a position which suggested that they had fallen from the building itself. There is evidence from other parts of Kish that this schistose rock, besides being burnt for plaster, was used for the lintels of narrow doorways and as door-sills.

The sun-dried bricks used in the palace were of two sizes, of which the earlier ones, measuring 23 x 15 x 3-5.50 cm, were used to build the original north-west portion of the palace. Those of the second size, averaging 20.50 x 13.50 x 4-6.50 cm, were used in the annex to the south and also those parts of the northern portion of the palace where repairs or alterations were made during or after the building of the annex. There is practically no difference in the quality of the two sizes of brick. They varied but little from the standard lengths and breadths, but there was considerable variation in thickness, the smaller-sized brick generally being much thicker than the larger one.

In the time of Hammurabi and in later periods, a layer of reed matting or loose reeds was often placed at certain levels in a mud-brick wall. This was not observed in the palace. Though traces of matting were frequently found on the floors of the rooms, it was proved in every case that these came from the roof which had collapsed into the chamber, not from the walls.

None of the bricks found in the palace can be regarded as primitive. They were well made and shaped and altogether they were a creditable production, considering the fact that they were made by hand in a mould and in enormous quantities. The fact that the Sumerian also devised bricks for certain purposes is proved by the use of rhomboidal bricks to build the columns of the colonnade and of the large pillared hall. Bricks of this latter shape were made in special moulds.

BAKED BRICKS

None of the baked bricks found in the palace was used for building walls. Their use was entirely confined to paving rooms and passages, and possibly encasing the mud-brick columns. Baked bricks are considerably flatter than sun-dried bricks, for in the latter the extra thickness is needed to make them strong enough to be handled without breaking. For this reason not a single baked brick has been found with the upper surface as convex as in the unbaked kind, except where sun-dried bricks have been accidentally burned in the firing of a building. The latter can be readily identified by the poorness of their baking as compared with the bricks which have been properly baked in a kiln.

The sizes of the burnt bricks in various parts of the palace are as follows:—

Chambers	Centimetres
6	27 x 17 x 5-6
14	25 x 17 x 5-6
15	23 x 13 x 4-6, 23.50 x 16 x 4-5
16	25 x 14 x 3-5, 23.50 x 13 x 4-6, 23.15 x 6 x 4-5
18	24 x 14 x 4-5
19	21 x 17 x 5-6
23	23 x 15 x 5-6, 24 x 17.50 x 4-5.50
30	24 x 14 x 4-5
33	24.50 x 17.50 x 4-4.50
45	18.50 x 13 x 3-4.50, 20 x 13.50 x 3-4, 23 x 15 x 3.50-4.50
	24 x 14.50 x 3-5, 24.50 x 16.50 x 4.50-6.50
51	20 x 13.50 x 3-6, 24 x 16 x 4-5.50
60	24 x 15 x 3-4

It appears from the above table that there is a considerable diversity in the sizes of the baked bricks. Even in the chamber, bricks of more than one

size were used, and in the great pillared hall as many as five different sizes of bricks occurred in the paving. The fact that comparatively few of the chambers bore actual traces of having been paved with brick may perhaps be put down to the activities of brick-robbers. Indeed, where fragments of the pavement still remain, the missing bricks must have been taken from them for other purposes in early times.

Comparatively few of the bricks were marked with the thumb or by any other means. This is curious, because in another large building that was excavated ("P") the great majority of the bricks were thumb-marked. In the palace, thumb-marked bricks were found only in chambers 18 and 30 and in the pillared hall, the sizes of the bricks so marked being 24 x 14 x 4-5 cm and 24 x 15 x 4-5 centimetres. The thumb-marks were all in the middle of the brick and in the direction of its longer axis. Several paving bricks of the pillared hall, which measure 24.50 x 16.50 x 4.50-6.50 cm, had a shallow mark longitudinally down the middle, made with a stick or with the finger. Similar bricks, which have been picked up on the slopes of Ingharra, may have been removed from this hall in early times.[15]

The object of thus marking bricks—a common practice in early times—has been much discussed. The general opinion is that these marks were for frogging purposes so that the mortar, whether bitumen or mud, might adhere the more readily to the brick. The difficulty in this theory, which to my mind is insuperable, is that the thumb-mark is not always in the centre of the brick; it is sometimes in the corner where it would not be of very much use. Also the markings are in many cases so shallow that they would be useless for frogging. I am inclined to think that these thumb-marks are in reality brickmakers' marks intended to distinguish the products of one brickmaker from another. A similar system of marking is very common in the Near East at the present day to prevent any person from claiming bricks that do not belong to him, when they are delivered at the building where they are to be used. Some of the plano-convex bricks at Kish—but not from the palace—bear two thumb-marks for identification, and there is no doubt that other markings of this nature will be found when more of Kish has been excavated. At Bismya, Banks found plano-convex bricks marked in many different ways, usually with a stick, as in the case of the bricks above mentioned, which were found in the pillared hall. He attributed these markings to the several restorers of the building in which the bricks were found, suggesting that each ruler who restored a building used an especially marked brick to demarcate his work from that of his predecessors. The markings which Banks found were also, in the majority of cases, too shallow to be of use for frogging. This evidence, together with that supplied by Kish, proves, I think, that the marks found on plano-convex bricks are the private marks by which the brickmaker identified his wares.

The baked bricks found in chambers 6, 14, and 19 seem to have been especially made for paving, as they are extremely flat and their size (27 x 17 x 5-6 cm) is most unusual. They are exceedingly hard baked, well made, and laid very carefully.

MORTAR

Mud mortar seems to have been almost universally used at Kish, though bitumen was commonly so used in the southern cities of Sumer. When used at Kish, bitumen chiefly served to cover the surface of a pavement of burnt brick, or it was sometimes plastered some distance up the mud-brick walls to form a waterproof wainscot.

FOUNDATIONS

Throughout the palace, both in the older and the later portions, the foundation or footing, as I prefer to call it, of a wall is considerably thicker than that part of the wall which appeared above the level of the ground. It forms a kind of shelf around the walls of a room, on the level of which the pavement is laid. This shelf is not always of the same width all around the room, nor is it always of a uniform height. The width varies from 17 cm to as much as 37 cm in the same chamber. These foundations are filled up in their entirety with lumps of stiff river-clay—a method of filling foundations commonly adopted at Kish at that early period. It has been observed, not only at the palace, but also in another building at Ingharra and in a huge fortress-palace ("P") about a mile to the N. W. of the "A" mound. Judging from the conoidal cleavage of these lumps of clay, they were dug out of the river bed in large masses, and then allowed to dry before being thrown into the foundations. No particular care was taken in packing the clay, and a section cut through a filling reveals holes and interstices between the various lumps which range in size from pieces as big as an egg to others about twice the size of a football. These pieces of clay were all irregular in size, not fashioned in any way by the hand. After the foundations of a chamber had been filled in as far as the top of the footing, it was levelled with ordinary alluvial earth, and then bricks, baked or sun-dried, and sometimes both, were laid to make the floor.

The exact object of filling foundations with clay instead of earth is a matter for speculation. That it did not always prevent the subsidence of the paving is proved by its irregularity in many of the rooms. If the palace had been a temple, we might suggest that the filling was provided for its purity, on the basis that as the river from which it is taken was sacred, the clay which formed its bed was also sacred and therefore most suitable for use in a temple. As a secular building is in question, however, the sacred or secular nature of its foundations ought not to matter. The fact remains that in dedicatory inscriptions of a later date, the frequent expression, "I laid this foundation with clean earth," suggests the survival of the custom of filling foundations with clean river-clay.

In practically every chamber, we cleared right down to the bottom of its foundations with the hopes of finding objects that had been buried beneath the pavement. Disappointment followed invariably, except for occasionally finding graves of a later period. In the course of these investigations, however, one interesting feature came to light—the foundations were themselves laid upon pavements of mud brick. These pavements were so common that we are forced to conclude that when the ground beneath the palace was levelled for building, a

pavement was first laid down over the whole area before the foundations were commenced. It is possible that the plan of the building was actually outlined first upon this pavement for the guidance of the builders.

The ground beneath the foundations of the palace was far from clean. It shows evidence of earlier occupation in the shape of ashes mixed with pottery fragments. The latter, unfortunately, show no definite forms. Very few traces of buildings were found with the exception of a small piece of walling beneath the southern end of the footing of the colonnade, which is shown in dotted lines in the palace (Plate XXI), and another piece underneath the north-west corner of the palace. Its height was 50 cm, and its base 49 cm below datum. The wall beneath the north-west corner of the palace has not yet been properly examined and cannot, therefore, be shown on the plan. It lies roughly N.-S., and is built of bricks measuring 21 x 11 x 4.50-7.50 centimetres. Its top was 15 cm above datum. In its neighborhood, the ground beneath the foundations of the palace was a mass of potsherds and burnt material. Most of the sherds were fragments of open dishes with flat bases showing focussed grooves. Two sling-stones of unbaked clay were found in this rubbish of exactly the same form as those found in other parts of Kish and dated to a later period than that of our palace (Reg. No. 2863; Field. Plate XLIV, Fig. 3).

Most of the chambers of the palace, especially those adjacent to the outer walls, show signs of having been burned. The walls are in many places red in color, and deep layers of ashes covered the floors. The firing of the building was undoubtedly the act of an enemy, who after taking the whole or part of the palace set fire to the roof, which finally collapsed inside the chambers, and probably smouldered for a considerable time. This slow burning would account for the partial baking of the sun-dried bricks in some of the walls, which has given rise to the mistaken impression that the upper surface of baked plano-convex bricks was of the same degree of convexity as in sun-dried bricks.

ERRORS

The palace was exceedingly well set out, and errors were comparatively few. In a mud building of this kind it was not possible to effect the refinement that one expects in a building of stone. Errors up to 10 cm, such as were found in some of the chambers, are quite excusable. In surveying the chambers, a wall with a badly decayed face was tied in from as many as five points, and an average of these was taken as giving the true line. Where long lengths of walling were concerned, they were tied in from as many as ten points to ascertain their alignment with accuracy. The greater part of the northern portion of the palace (Plate XXI) was built with the greatest accuracy; but the walls that enclose chambers 10, 11, 16, and 21 are considerably askew, which error is corrected, but not completely, by the walls on either side of the passage 22. As we travel east, the error becomes less and less until the walls of the chambers at the east of the stairway resume their original alignment.

Measurements taken along the outside walls of the northern portion of the palace show considerable accuracy in the main walls of the building. For instance,

there is only a difference of 20 cm between the length of the western side of the building (41 m) and that of the eastern side (41 m), taken through passage 22. Measurements along the northern and southern sides of the building reveal no errors whatever, the distance being 74.60 m as taken from the face of the great wall on the west to the outer face of the great wall on the east of chambers 29, 30, and 31. The variations in the annex are more pronounced. The distance at the west between the outer footing of the northern wall and the southern side of chamber 44 is 28.70 metres. The corresponding distance at the eastern end of the building is 29.30 m—a difference of 60 centimetres. This error is, however, practically negligible in a building of this size. The length of the annex at the north is 57.60 m and at the south 56.25 m—a rather larger error of 1.35 metres.

The levelling of the northern portion of the palace was also surprisingly good, as will be seen by the figures in the chapter devoted to the description of the building. This again was not the case with the annex, which varies greatly in different parts. Any serious differences in the heights of the foundations could, however, be readily corrected by the filling that concealed them and be unnoticeable inside the rooms. In all probability, the level of the ground outside the palace was considerably below the footing, which in that case must have appeared as a ledge all around the building; but the only definite evidence of this at present is that the level of the bottom step of the stairway is 1.45 cm below datum and, therefore, as shown by the levels, considerably below the top of the footing in all parts of the annex. The building at "A," therefore, stood, as it were, on a platform which was not apparent until one entered it.

MEASUREMENTS OF CHAMBERS

It was hoped by collecting the dimensions of both walls and foundations of the chambers of the palace to ascertain what particular scale was used in setting it out. Most of the dimensions could be measured with a fair degree of accuracy, but slight errors due to the thickness of the plaster had to be taken into account in the case of the walls. These errors were eliminated as far as possible by taking the average of several measurements made. One would expect, however, that the foundation dimensions would be the ones which were actually set out by the architect. The walls were in all cases narrower than the foundations on which they stood, and possibly less care was exercised in fixing their width.

It will be seen that the digit numbers do not form even fractions of the cubit, as one would expect. Prolonged study of the actual measurements has failed, however, to reveal any more satisfactory unit of measure than the digit. We have to take into account both the wear and tear of time and the fact that the mason of ancient times probably followed the plan outlined for him no more accurately than does the Oriental of to-day. There is also the possibility that, once the main outlines of the buildings were set out, the sizes of the various rooms were fixed more or less arbitrarily.

The following figures represent the dimensions most frequently met with in both the original palace and the annex. The digit has been taken as equal to that marked on the lap of the Gudea statue, namely, 16.50 mm; the royal cubit as 30 and the small cubit as 20 digits.

FROM WALL TO WALL					FROM FOUNDATIONS TO FOUNDATIONS				
METRES	ROYAL CUBITS AND DIGITS		SMALL CUBITS AND DIGITS		METRES	ROYAL CUBITS AND DIGITS		SMALL CUBITS AND DIGITS	
	Cubits	Digits	Cubits	Digits		Cubits	Digits	Cubits	Digits
1.60	3	7	4	17	2.60	5	8	7	18
1.90	3	25	5	15	3.05	6	7	9	7
2.15	4	10	6	10	3.73	7	16	11	6
2.50	5	2	7	12	4.00	8	2	12	2
2.60	5	8	7	18	4.40	8	27	13	7
3.10	6	8	9	8	5.20	10	15	15	15
3.15	6	11	9	11	5.90	11	28	17	18
3.50	7	2	10	12	6.60	13	10	20	—
5.15	10	12	15	12	7.90	15	29	23	19
7.35	14	25	22	5	9.50	17	5	25	15
9.90	20		30	—	10.60	21	12	32	2
10.00	20	6	30	6	10.95	22	4	33	4
10.15	20	15	30	15	11.85	23	28	35	18
11.50	23	7	34	17	14.50	29	9	43	19
26.50	53	16	80	6	26.70	53	28	80	18

LATER WALLING AND DRAINS

To avoid confusion, a skeleton plan of the palace is given in Plate XXII, showing the position of the later walls. This plan, as will be seen, has also been used to mark the positions of the many graves found in the course of excavation; and it should be noted that the position of every grave was tied in with the theodolite. In describing the later walls built above the palace, those above the northern portion will be mentioned first.

Wall "O" measures 12.20 by 1.10 m, and in places stands 1.70 m high. Its eastern end is complete, as shown, but a portion—it is not known how much —is missing from the western end. On the southern side there were two recesses, averaging 60 cm in width by 40 cm in depth, which seem to have been intended for ornament as they run up to the summit of the wall. The bricks of which this wall is made measure 20 x 15 x 3.50-6 cm, and are of exactly the same size as those of the building whose ruins lie beneath. This is perhaps to be expected, as for a small building of this kind bricks would be borrowed from an earlier site. The level of the base of this wall averages 44 cm above datum, and it rests crosswise immediately upon the earlier wall beneath it. The two thin walls "P" are parallel with one another and appear to be all that is left of a room. They average 3 m in length by 50 cm in thickness. These are also made from bricks taken from the walls below. They are well constructed and well plastered with mud. Their average height is 81 cm and their bases at a level of 2.81 m above zero line.

The little group of walls, "Q," is the most extensive of the later walls on the mound. They are 70 cm thick. A central chamber entered from the east is divided into two by a short partition wall, and on either side are two other chambers which must have been entered from the south. The bricks of which these rooms were built measured 23 x 16.50 x 4-7 and 21 x 16 x 3.50-6 centimetres. They are a little wider than those used in the old building, and may have been specially brought there for the erection of this house. The bricks are loosely laid, but the walls are square. Near the centre of the chamber at the east was a large bowl-like vessel with a ring base measuring 85 cm in diameter and 40 cm in depth on the outside. It was strengthened by four horizontal ribs, and was coated inside and out with bitumen. The vessel is of the same type as those found in chamber 30 (Plate XXXI, Fig. 2) in the building below, except for the addition of a ring base.

The average height of the walls is 80 cm, those on the east being the best preserved and standing 1.20 m high. From the objects found in this house there is evidence that it was built just before the mound was used as a graveyard. A series of little implements (Plate LIX, Fig. 28), all secured together by a ring, but without the usual case, was found on the mud floor. A more valuable find was a jar of ashy-gray ware with a pricked design filled in with white, but it was, most unfortunately, in pieces. This jar was found in the larger chamber to the east, and is pictured in Plates XLV, Fig. 5 and LII, Fig. 9.

It will be noticed that a large square shaft measuring 1.80 x 1.55 m is cut through the walls of one of the chambers. It extends right below the footing of the palace itself to a depth of over 6 metres. What the object of this shaft was is difficult to say. Nothing that might indicate its use was found inside it, and it had evidently been opened; for it was filled with blown alluvial soil in which fragments of pottery of Greek times were found.[16] It was exceptionally well made with carefully plastered sides. That it was of later date than the building it is in is proved by its being cut at an angle through one of the walls as well as by the fact that its walls are lined with plano-convex bricks of the unusual size of 26 x 17.50 x 4.50-7 cm—a very large-sized brick indeed.

The two walls "R" and "S," one of which is superimposed on the other, must represent two occupations. The lower wall, which is represented in black, is constructed of bricks averaging 23 x 17 x 4-9 centimetres. Their width is unusual, and the upper surface very markedly convex. One brick taken from this wall measures as much as 27 x 16.50 x 6-8 cm, and a brick of exactly the same size was also found in the "Q" building. As no bricks of such a large size were met with in the palace, they must have been especially made for the later buildings. This wall is 68 cm high, and its foundations are at a level of 1.96 m above datum. The upper wall, which is hatched in the plan, was built of bricks whose dimensions were 21 x 15.50 x 4.50-7 centimetres. It was built directly on the lower wall and at a slight angle to it. Its average height is 61 centimetres.

To the west of these two walls there is a column of sun-dried bricks measuring 21 x 15.50 x 4.50-7 centimetres. This is marked "V." It is loosely built, and measures 93 cm in diameter. It cannot have had anything to do with the passage in

which it stood and must have formed part of a later building above, probably one of which either wall "R" or wall "S" once formed a part. The column when found is 1.22 m high, and its base was at a level of 86 cm above datum and 58 cm above the footing of the palace.

The clearing of a shaft in the neighborhood of the palace involved the making of a number of measurements. Several important questions suggested themselves with regard to the time of construction, and the relationship of the shaft to the palace. In the first place it is not quite clear whether the shaft was originally intended to be a part of the main building. Before this matter could be determined a careful examination of the contents of the shaft was necessary. The queries are: Was the shaft used for burial purposes? Could the shaft have been part of a drainage system?

To the east of the walls "R" and "S" was cleared a rectangular shaft, "U," measuring in section 2.70 x 1.70 metres. Its depth was 7.70 m and the surface of the ground here was 2.84 cm above the datum. This shaft, as will be seen in the plan, was cut down through the thick outer wall of the palace, but can hardly have any intended connection with it, as it is not square with the building. It was found to be full of a light blown soil, and the only object found in it was a broken cylinder seal very long for its diameter and incised with a geometrical pattern. This shaft was probably cut at the same time as the square shaft, "T," to the north of it. Whether they were used for drainage purposes or as burial pits, it is impossible to say with certainty, but the presence of the cylinder seal in shaft "U" is suggestive of a burial which was probably pilfered in very ancient times. No trace, however, was found of any bones.

Just outside the western wall of the annex were found three furnaces or kilns marked with the letters "X" and "Y." All were empty when found and in bad condition. The bricks used in their construction are of the two sizes used in the palace, namely 20.50 x 13 x 3.50-6 cm and 23 x 15 x 4-6.50 cm, and were set in mud mortar only. These bricks are very badly baked in places, and the kilns would seem to have been constructed of unbaked bricks, which were gradually baked when the kiln was put into use. The design of these kilns was the same in each case, and kiln "X" may be taken as typical. Its external measurements are 3.70 x 2.40 metres. The inside forms a sort of tunnel, measuring 3.70 m by 75 cm, about 90 cm in height. Its roof is spanned by a series of semicircular arches from 20 to 24 cm wide, the spaces between the arches being from 18 to 21 cm wide. On the western side there is a horizontal flue just below the base of the arches measuring 12 by 16 cm and constructed of bricks, broken and whole, placed corbel-wise. This flue communicates with the interior of the kiln all the way along it and is carried for a considerable distance beyond, to the south in the case of kiln "X," and to the north in that of kiln "Y." How far these flues originally ran is impossible to say. Indeed, that of the third kiln had totally disappeared. The arches were covered loosely with burnt bricks, but any superstructure that there may have been above these had been destroyed. Each arch is 36 cm high from its spring, which itself is 53 cm above the floor of the furnace.

The other two kilns to the south, lettered "Y," were of the same design, but slightly larger.

The levels of kiln "X" are as follows: surface of ground 75 cm above datum; top of arch 57 cm below datum; lower surface of arched roof 71 cm below datum; level of floor at side of kiln 76 cm below datum; floor of furnace 161 cm below datum. The levels of the building alongside these kilns are: top of wall 69 cm above datum; top of footing 54 cm below datum; base of footing 160 below datum.

Unfortunately, nothing was found in these kilns beyond a little ash, and it is not known whether they were used for baking pottery or bricks. I am inclined to think that they were intended for the former, as they are so small, and as there is a great amount of broken pottery in their vicinity. They seem to have been used in this way—the fuel was placed in the tunnel from both ends, which was then sealed up, leaving a small aperture for a draught; the pottery or bricks were then placed in a superstructure above the arches, this superstructure having since disappeared. The flues at the sides of the kilns must have been intended chiefly to carry off the smoke of the burning fuel; they were probably damped down when the smoke had ceased, and the fuel was glowing hot.[17] These kilns were built after the palace had fallen, probably with bricks taken from it. They were no longer in use when the mound was used as a burial ground, for graves 69 and 70 were cut right into them. The entrance to kiln "X" is seen in Plate XXXI, Fig. 1. The illustration also shows a portion of the flue belonging to kiln "E."

In chamber 31, there were found the remains of two furnaces of an entirely different type, but they were unfortunately in a very damaged state. These are marked "J" and "K;" "K" is illustrated in Plate XXX, Fig. 1. That these furnaces are of later date than the palace is proved by the fact that one of them ("J") is partially built into the eastern wall of a chamber. From their size, these two kilns were presumably used for baking bricks. They were constructed of sun-dried bricks taken from the ancient walls around, which were used in a single layer to line irregularly rounded holes in the ground. The bricks were laid in every conceivable way, some obliquely on their edges, others vertically and some in the normal position. The bricks used measure 18 x 13.50 x 5-8 cm, 25 x 13 x 3-5 cm, 23 x 15 x 3-5 cm, etc. The first two sizes do not occur in the palace. They must therefore have been brought to the spot for the purpose of building these kilns. All the bricks are burnt a dull red, and are in a very friable state. The kilns therefore do not seem to have been used more than once, after which they were left derelict. How they were used is difficult to say, as nothing remains of flues or superstructures. Probably these brick-lined cavities were stacked with bricks through entrances to the north, the necessary fuel being mixed with the bricks. Then, with the provision of air-holes above and below, the kilns were roofed over and fired. The levels of "K" are: surface of ground, 237 cm above datum; top of kiln, 159 cm above datum; base of kiln 13 cm below datum.

The two walls "L" and "M" have been discussed in the chapter devoted to the description of the palace. The block of brickwork "N" is difficult to explain. It was a platform constructed entirely of plano-convex bricks, and measures 4.40

x 3.10 m, 20 cm high. The bricks of which it was made were of two sizes: namely, 23 x 15 x 4-7 cm, and 21 x 13 x 3.50-5 cm; broken bricks were also used. The level of the top of this platform is 151 cm above datum, or 20 cm above the foundations of the adjacent walling "G" to which it probably belongs. On the north-east corner of this platform a burial was found (No. 23), which proves that the pavement cannot be of later date than the period of the cemetery. This burial had also slightly disturbed the brickwork of the ramp above the stairway.

The walling "G" is made of sun-dried bricks, measuring 20 x 15 x 4-5.50 centimetres. For the most part its width is 70 m, but in one place it is 1.40 cm wide. It evidently formed part of a building which was erected there after the palace had fallen into decay. A doorway toward the eastern end of the main wall measures 80 cm in width. The average height of these walls is a little over a metre, and their foundations are at a level of 131 cm above datum. East of platform "N" and contiguous to and exactly opposite the middle of it was a large basin "H" with a flat base, measuring 105 cm in diameter at the top and 130 cm at the base. It is made of plano-convex bricks, both broken and whole, and is thickly plastered with bitumen. The depth of the basin is 49 centimetres. Its upper edge is at a level of 151 cm above datum and on the same level as the platform to which it evidently belonged.

The two hatched walls denoted by the letter "A" between them are built of bricks measuring 25 x 25 x 10 cm, whose upper and lower surfaces are perfectly flat. Square bricks of this size have been found nowhere else in Kish, except in the square column marked "F" on the plan, and for this reason it is at present impossible to date them. I would regard these bricks as being the link between the largest-sized plano-convex brick and the large Sargonic brick, and, therefore, as belonging to the pre-Sargonic period. Both these walls are 50 cm, or two bricks thick, and their average height is 144 centimetres. The foundations of the walls are an average of 33 cm below datum. The column "F" measures 1 m square and 99 cm high. Its base is at a level of 53 cm below datum.

To the east of the two walls "A" is seen a group of walls belonging to two different periods. The wall "C" at the west is 18 by 1.15 m, and is built of well-made sun-dried bricks measuring 27 x 9.50 x 10 centimetres. It is evidently an important structure and may possibly have been a boundary wall. It is illustrated in Plate XXVI, Figs. 1-3, but the short flights of steps on the eastern side of it in Fig. 1 were merely made for the convenience of our workmen. At its southern end, the wall stands 1.02 m high, with its foundations at a level of 1.29 below datum. At the northern end the wall is 2.66 m high, and the foundations 76 cm below datum. These levels show that the wall was built upon sloping ground, which is quite a likely procedure in the case of a boundary wall for which the earth need not be levelled. As regards its date, we are on surer ground. The same size of brick was used in building this wall as has been found in the ruined building dated to the period of Hammurabi (2180 B.C.) on the south-west side of the Ziggurat at Tell Ahaimir.

The irregular group of walls to the east of "C" (lettered "B") are built of well-made unbaked bricks measuring 39 x 23 x 8 centimetres. These walls, of which

three stand at right angles to a longer wall of irregular thickness, average 34 cm in height, and foundations are at a level of 86 cm below datum. In the space between the two southernmost walls there was a bitumen pavement, 2 cm thick, at a level of 77 cm below datum. From the size of the bricks I would date this group of walls to a period of a little later than Hammurabi, perhaps that of Samsuiluna. Farther to the east is a remnant of an important building, marked "E." Its widest part is 1.50 m thick, and a doorway was found in it measuring 80 cm in width. The size of the bricks of which this wall is built is 27 x 19.50 x 10 cm; that is, exactly the same size as in wall "C" with which it was probably once connected. This wall when found stood about 72 cm high, with its base 36 cm below datum.

The enclosure marked "W" in the plan is a pit that contains a number of graves of the Greek period. It measures roughly 8.40 x 5 m, with walls averaging from 30 to 50 cm in height. No bricks were found in the sides of the pit; they seem to have been simply of mother earth coated with a thick layer of mud plaster. Owing to denudation it is not known how high the walls of this chamber formerly were. When discovered, the top of the wall was 2.49 m above datum, whereas the surface of the ground was 2.71 m above. The entrance to this pit is at the north, and a recess there seems to have been intended to take a door. The floor is paved with bricks of a late date, both whole and broken, whose dimensions are 31 x 31 x 8 centimetres. The same-sized brick is also found in the large mound "W," to the west of the "A" mound, which is entirely composed of Neo-Babylonian buildings, and the bricks of this burial chamber were probably taken from that site.

On the pavement at the south of the chamber there is a column measuring 90 by 70 cm, which stands 34 cm high, that is, four courses in height. At the north is what appears to be a small piece of walling, measuring 25 cm in thickness and 55 cm in length, built of broken brick plastered with mud. The top of this wall is 2.40 cm above datum. The pavement is in some places laid more than two bricks deep, and its surface is at a level of 2.28 m above. Only mud mortar is used in laying the pavement of which, however, a good portion has been removed, probably by brick robbers. In the northern portion of the chamber were found the bones of at least six bodies much confused as if they had been placed on top of one another, and orientated N. E. to S. W. The objects found with these bodies had been weathered badly. Some are shown in Plates XX and XVII, Figs. 8-14 and XLVII, Fig. 8; they are fully described in the last chapter.

In many parts of mound "A" were found pottery drains evidently belonging to later buildings which have been denuded away. Though these drains in the present state of our knowledge are of little use for chronological purposes, they have been marked in black in the skeleton plan of the palace, and are fully described below. In the north-west corner of chamber 7 there is a vertical pottery drain made up of segments, 53 cm in diameter and 40 cm high, and open above and below. In each segment there is a pair of small holes for additional drainage in the middle of each of the opposite sides. The space between the debris filling the chamber and the segments was filled in with broken pottery, and into this

loose material the water soaked away through the holes in the various segments. The upper rim of each segment of this drain consists of a rounded beading 5 cm deep and 5 cm thick.

Considerable disturbance was caused in chamber 16 by the sinking of a vertical drain whose segments measure 64 cm in diameter by 18 cm in height. In this case each segment has a thick beading at the lower as well as the upper rim. None of the segments fitted one another, but merely rested one upon the other. The drain in the north-east corner of chamber 43 is of unusual design. Each segment is 72 cm in diameter and 30 cm high. The upper edge is strengthened with a thick beading, but the lower edge is rimless, and fits into the top of the segment immediately below. For additional strength there is a heavy beading around the middle of each segment. The bottom of this drain is at a level of 23 cm below datum.

Four drains were found in the large pillared hall. The two to the north were evidently of the same date as they correspond in make and size, and they reach to 1.64 m below datum. They measure 53 cm in diameter, and are composed of segments 43 cm high, which are slightly cone-shaped and very roughly made. Contrary to the usual practice with cone-shaped segments, the smaller ends of successive segments are placed together, instead of their fitting into the larger ends. The two drains to the south are of slightly different make. The segments measure 50 cm in diameter and 23 cm in height, and both rims of each segment are heavily beaded. The level to which they were sunk averages 145 cm below datum.

High up above chamber 49, three segments of a vertical drain were found, each 70 cm in diameter and 35 cm high. Both rims are thickened, and there is a beading around the middle of each segment. These segments are slightly conical so that they fitted about 2 cm one inside another. The level of the base of the lowest segment is 89 cm above zero. The larger drain in chamber 52 is composed of segments 60 cm in diameter and 21 cm high. The upper rim of each is strengthened by a rounded beading 4 cm wide and deep. The lower end of this drain is about the level of the top of the footing of the chamber; that is, 79 cm below datum.

The second drain measures 49 cm in diameter, and each segment is 46.50 cm high with a plain lower rim and heavily-beaded upper one. It penetrated far below the foundations of the palace, and its base was never found. In the south-west corner of chamber 61 there were four segments of a pottery drain, each 72 cm in diameter and 37 cm high. Both rims are heavy and rounded, and each segment rests on the edge of the one below. The thickness of the pottery in the middle region of a segment is 1.50 centimetres. The lower edge of the lowest segment is 138 cm below datum. The copper or bronze adze shown in Plate XXXIX, Fig. 2, was found in a sandy deposit about the middle of the lowest segment. These drains do not resemble one another closely, except for the segments of those in chambers 43 and 49 being of much the same size and conspicuous for the beading around the middle of the segments. The largest segments were found in the drains in chambers 43, 49 and 61, their average diameter being 71 cm by an average of 34 cm in height.

In the segments found in the last two chambers, both upper and lower rims are strengthened with heavy beading.

In many cases, considerable damage had been done to the walls of the palace in the process of sinking these drains. As the majority go a considerable distance down, a very large hole had to be made before the lowest segment could be laid. The hole had also to be of considerably larger diameter than that of the segments, in order that a packing of pottery fragments might be placed around the segments for additional drainage, which was done to within a few feet of the top. There are, unfortunately, as said before, no means of accurately dating these drains, for the houses to which they once belonged disappeared many centuries ago. It is probable that the majority of them belong to some period prior to that of Nebuchadnezzar II, as no trace of any work from the time of that monarch has been found on the "A" mound.

OBJECTS OF THE PALACE PERIOD

With the exception of the graves of later date, the palace proved to be a very disappointing site as regards the finding of movable objects. Room after room, as it was cleared, proved to be bare; and, what was still more strange, with the exception of one or two pieces, no pottery was found that could with certainty be referred to the palace period. One could readily understand the lack of valuables, as these might naturally have been looted and taken away; but it is hardly likely that much attention would be paid to pottery. Even if this had been considered of value, some of it would surely have been broken and left behind. The lack of pottery is most unfortunate, for it was badly needed to help in dating the building and also for comparison with the pottery in the later graves, of which there is no lack.[18]

Perhaps the most interesting object found in the palace, and obviously part of its decoration, was the fragment of slate and limestone inlay work represented in Plate XX, Figs. 2-3. It was found lying face downward close to the N. W. corner of the chamber marked 35 in the plan and but a few centimetres below the surface of the ground. Its dimensions are 64 by 33 cm, it is 3 cm thick. The dark-gray slate in which the inlay is set is laminated in several places, which points to its having been subjected to heat. The inlay is of fine, white limestone. A part of the lower edge of the plaque is perfect, but all the other edges are badly broken. The centre of the plaque was cut out—its edges are quite smooth—and the space so formed must have contained a small scene or, more probably, the name of the king with an inscription explaining the meaning of the scenes. The line across the upper part of the plaque above the king's head gives the impression that this was not the only register. The groundwork of the plaque is made up of irregular pieces of slate cut so as to fit together. The top left-hand side of the plaque is a smooth cut edge. Channels were roughly hollowed in the slate to the depth of 7 mm to take the limestone inlay, and were in most cases considerably larger than the inlay they accommodated. The inlay is variable in thickness. The different pieces that go to make up the same figure even range from 4 to 6 mm in

thickness. From traces of bitumen found still adhering to the back of the pieces of inlay there can be no doubt that this substance was used to cement the inlay in its slate bed. It was probably poured in while the pieces were held in place by the fingers. It is possible also that the whole surface of the slate was painted over with bitumen to hide the joints of the background as well as the joints between the inlay and its groundwork.

The inlay, itself, it will be noticed, is also made up of irregular pieces of limestone, and considerable ingenuity is shown in contriving the joints where they would be the least apparent. The smaller details of the scenes were drawn in fine incised lines about 1 mm deep, but to portray the larger ones, such as the beards, the stone was scooped out to a depth of about 2.50 millimetres. These latter details were filled in with thick, black paint, traces of which were found still adhering in many places. This engraving seems to have been done after the inlay was cemented into position. The inlay shows no signs of having been rubbed down after being fixed, for each piece is of the same thickness throughout and perfectly flat on either surface, nor were there any holes or grooves cut to give firmer hold to the bitumen cement. The scene is of a monarch holding a prisoner with the right hand and grasping a battle-axe with a long wooden handle in the left one. The head-dress is most curious, but unfortunately a small fragment is missing from the centre. There is, however, little doubt that the top was a simple curve, as in the figure found elsewhere in the palace and shown in Plate XX, Fig. 3. The king is naked above the waist, which is encircled by what appears to be a thick, heavy girdle. Below this hangs a long pleated kilt, whose front panel is held up by the hand that holds the battle-axe to give greater freedom of action. Unfortunately, little remains of the prisoner held by the king. He is represented as nude, except for a cincture about the waist, and his hands are tied behind his back with a double coil of rope. It is noticeable also that he is uncircumcised. On the right of the plaque is a similar prisoner, but much more nearly complete. This second figure also is nude but for a belt around the waist. The head is represented as bare, except for a long lock of hair hanging down on the left of the face to the same level as the beard.[19] This feature is also represented in the portrait of the king. The beard is long and narrow, and arranged exactly as in the the case of the king. This prisoner too has his hands tied behind his back.

All the figures are of an extremely archaic character, and are represented with a great deal of vigor. The drawing is good, and though the muscles are not shown, details such as the knee-cap, ankle-bone, etc., are portrayed. As in all primitive figures, the eye is unduly large; great prominence is also given to the nose, and but little to the mouth. The pupil of the eye is represented by a hole into which a piece of lapis lazuli was formerly fitted. This stone was commonly used for this purpose, even in animal figures. Its color does not necessarily imply that the originals had blue eyes, for it is the pupil, not the iris, which is made of lapis lazuli. The king has his right foot slightly raised as if it were resting upon something. Unfortunately, the plaque is broken away here, but it is possible that the foot was placed upon a fallen captive. The king's attitude calls to mind the

figure of Naram-Sin in the Stele of the Vultures. Whether the figures be Semitic or Sumerian, others may judge. The scene, however, shows that the conqueror and the conquered were of the same race, for the locks of hair, beard, and general treatment are identical in the two. The dress alone distinguishes one from the other. The prominent cheek-bones are noteworthy. They appear more prominent than they actually are by reason of the inlay being hollowed beneath them to provide a setting for the bitumen that formed the beard. The base of this setting has been furrowed to give the bitumen a hold.[20]

It is not known which position this plaque occupied upon the wall; nor is there any indication on the plaque itself as to how it was attached to the wall. It is possible that it formed part of a long scene, with a great deal of repetition as shown by this fragment. Moreover it is certain that the piece illustrated was the lower part of a scene, but whether there were one or more registers above is not known. This fine example of early work was found just after the commencement of the work upon the palace (Reg. No. 1501; Baghdad).

In Plate XX, Fig. 1 will be seen fragments of inlay of mother-of-pearl, which were found a little way north-east of the plaque in a position suggesting that they had been washed down by rain. Their state of preservation, as will be seen in the photograph, is excellent, though no more pieces than those illustrated were found, beyond a few that were unimportant. The fact that these figures form part of a single scene is obvious. First, we have on the left of the illustration the right arm and shoulder of a man who, judging from his size compared with the other figures, must have been a person of importance. The upper border of his dress is extremely ornamental. The chief point of interest is the presence of the three signs "Lugal-ud-lugal" incised on the shoulder; the remainder of the inscription unfortunately is missing. As these fragments of inlays are evidently of the same date as the plaque described, it may be suggested that this figure possibly represents the last king of the second dynasty of Kish, who in the Weld-Blundell prism is called "Lugal-mu." If this be so, the palace might be dated to approximately 3500 B.C.

The female figures in this inlay are extremely interesting. The curious headdresses are quite a novel feature, and appear to be some form of crown. The empty space between the head and the crown represents the hair. It was originally filled with bitumen as in the case of the beards in the plaque. These crowns appear to be made up of a fillet around the head, from the middle of the front of which arises an ornament that is turned backward over the top of the hair and terminates in a piece like the tail of a fish at the back of the fillet. Whether the strip which projects downward from the fillet at the back of the head is part of the crown is difficult to say, but I am inclined to regard it as merely an outline to the hair, which was necessary to avoid confusion between the bitumen representing the hair and that in which the inlay was set. This is more strongly suggested in the case of a similar figure found in the annex of the palace and shown in Plates XX-XVI, Figs. 4 and 6.

All the female figures wear necklaces of beads, in a double row in two cases. Two of the figures also have ear-rings. The figure on the right is shown with

slightly flexed right arm holding a cup with a pointed base. Pottery cups of this shape were found in the palace, and will be described below in this chapter. The figure of the woman at the bottom of the illustration is the most complete. She is holding in either hand a curious object which may be of pottery or metal. I am inclined to see in these objects a strong resemblance to the metal implements, which were found in some later graves at "A" shown in Plates XXXIX and LXI. It is true that the shape is not exactly the same, but this may be accounted for by the difference in date. All these figures once had lapis-lazuli pupils in their eyes, and in the female head to the left at the bottom of the illustration the lapis-lazuli pupil still remains. In this fragment the same form of diadem appears to have been worn, but the necklet is not of beads. The male figure above this wears the well known "kaunakes" consisting of a single row of fringes, showing that this figure belongs to a very early period. This garment was evidently worn by someone of importance, for it shows considerable detail of ornament. The outstretched arm at the top of the illustration is, unlike the rest of the fragments, cut round and the modelling is extremely beautiful. It belongs to a figure the rest of which could not be found—a fact much to be regretted, for this fragment shows a greatly superior technique to that of the other fragments. The calf's head at the top of the illustration has been placed in this group by mistake; it comes from another site (the large building of plano-convex bricks at "P").

As mentioned, all these fragments of inlay were cut out of mother-of-pearl, and though slightly yellow in color, they still show a good deal of polish. Their surfaces are not perfectly plane, as in the case of the plaque; here and there they follow the curvature of the shells from which they were cut. Mother-of-pearl is an extremely difficult substance to work: first, on account of its extreme brittleness; second, on account of its lamination. It must have required considerable skill to fret out the outlines of the figures, especially the details of the diadems, and it is noteworthy that in several cases parts of the figures, which should have been cut out, had the ground lowered instead.

These fragments varied in thickness from 2 to 4 millimetres. They were originally set either in wood, or more probably in bitumen. Whether they formed part of a mural decoration or served to adorn a piece of furniture is not known, but it shows that even in the archaic period Mesopotamian civilization was capable of producing shell ornamentation quite equal to that produced in Syria at the present day (Reg. No. 1531; Baghdad).

The animals shown in Plates XX-XVI, Figs. 1 and 6, were found lying principally along the northern wall of chamber 61, tumbled together with broken pieces of slate in which they were once set. The figures illustrated are the best of many fragments found in that chamber, which included portions of human figures in limestone of the same technique and apparently the same design as the plaque illustrated in Plates XX-XV, Figs. 2-3 and figures in mother-of-pearl (Plate XXXVI, Figs. 3-6) . They were associated with fragments of pottery cups of the pointed forms shown in Plate XXXVII, Fig. 6, and with one spouted jar of the early type which, however, was too broken to be restored. A small piece of iron

was found adhering to one of the slate fragments, and was pointed out to me by Colonel Lane before he removed it from its position. The other pieces of iron of the same button-like form were found with the fragments of inlay before the chamber was finally cleared. These pieces of iron, which were undoubtedly the same age as the inlay work, may possibly have been the heads of nails, but no traces of a shank could be found with any of them. They could hardly have been pieces of ore or meteoric iron kept as curiosities, for they were practically of the same button-like shape and size, averaging 22 mm in diameter and 10 mm in height. One of them is figured in Plate XXXVI (the lowest of the three objects in Fig. 2).

The animal figures shown in the plate are made of shell; on this account most of them show a certain amount of curvature. They are beautifully cut, and evidently formed part of a domestic scene similar to the one found by Woolley at Tell el-Obeid. The largest figure shows a goat being milked from behind, a practice which is still pursued in Iraq and also in India. In the larger figures, the spaces between the legs were fretted out, but this was not done in the smaller figures, presumably on account of the brittleness of the material. The animals in repose especially show a great fidelity to nature. The larger animals have the pupil of the eye inlaid with lapis lazuli, which was found in place when the earth was removed from the figures. Some of the smaller figures had also been treated in the same way, but in the majority of cases the form of the eye alone was represented. Among the animals found were a bull, sheep, and goats, and what may possibly have been a dog with a curly tail and apparently a saddle on its back (Plate XXXVI, Fig. 6). The arms and shoulders of a man beautifully cut in shell merit special attention. The object held in the two hands probably represents the blossom of the palm that may have been used in some rite observed during the season for the artificial fertilization of the palm-trees. The figure of a woman (Plate XXXVI, Figs. 4 and 6) holding the same two objects as are held by the female figure in Plate XXXV, Fig. 1, is duplicated for the sake of clearness. The groundwork of the mother-of-pearl in which this figure is cut has not been entirely cut away as in the other similar figures, with the result that the woman appears to be wearing her hair loosely gathered up behind in a sort of chignon.

All this inlay work evidently formed part of the decoration of the chamber in which it was found, but it was impossible to trace its exact position on the walls. Woolley found the inlaid plaque of Tell el-Obeid on the outside of a building, and has placed it high on the walls in his restoration.[21] This was about the position of our inlay, for if it were set too low there would be great risk of damage to a frieze of this description; the inlay could be readily picked out with the fingers.

It would seem that this inlay was wilfully broken up and destroyed. A fall would hardly account for the damage done to the smaller figures; for instance, the breaking of a limb into two or more pieces. Only the more solid figures were perfect, probably because they were considered unimportant and difficult to break up. Fire might account for much of the damage, but none of the inlay shows any signs of being burned. The destruction done seems to be entirely due to a systematic vandalism. The fragments of the inlay were found on a flooring

made up of two courses of mud brick, at a level of 15 cm below datum. It is impossible to say whether the many pieces of bitumen found with them were part of the setting of the inlay (Reg. No. 1502; Oxford). The alabaster dishes of which fragments were found with the inlay are shown restored in Plate LV, Figs. 5 and 9. Of these, Fig. 5 once held a fatty substance of a light brown color. This dish was badly corroded by salt.

Two copper nails similar to that in Plate XXXVI, Fig. 2, were found with the inlay, and may have been used to fasten or ornament it in some way.

The fragment of a dish illustrated in Plate XXXVI, Fig. 11, was found at a level of 141 cm below datum close to the southernmost pillar of the colonnade. It stands 10 cm high, and is made of bituminous limestone. Its shape was either square or rectangular with rounded sides. The inside of the dish is smooth, but the outside is carved in relief with a scroll pattern which is exceptionally fine. The workmanship is exceedingly good, both as regards design and regularity (Reg. No. 1037; Oxford).[22]

The pictograph tablet, whose obverse and reverse are pictured in Plate XXXVI, Figs. 7-8, may or may not have belonged to the palace. It was found at the eastern end of chamber 40, 50 cm below the surface of the ground and at a level of 78 cm above datum level. It was made from a piece of cherty limestone, and measures 63 by 59.50 millimetres. It is 31.50 mm thick in the middle, and 15 mm at the edges. Its shape is cushion-like, the upper and lower faces being rounded, and the sides flat. This tablet has been discussed from a philological point point of view by S. Langdon.[23] It is somewhat chipped in places, and has evidently been used as a hammer-stone. It was found lying under a piece of quartzite. The presence of the hammer marks and its position probably indicate that it was brought there from elsewhere. It is very doubtful whether the very archaic signs upon the tablet do not belong to a period considerably older than the palace. The remains of this period may even now exist below the palace (Reg. No. 1131; Baghdad).

Part of Plate XXXVII also is devoted to objects which were found in the palace and which, according to the evidence of the positions in which they were found, presumably belong to that period. Fig. 1 is a restoration of a well-made dish of fine gray limestone of which several fragments were found on the floor of chamber 19. Its surface is smooth, but unpolished, and it measures 20 cm in diameter at the rim and 6.20 cm at the base. It stands 7.70 cm high. The fact that the pieces of this dish were scattered about the floor of the chamber and not all found in the same place is sufficient evidence that it belongs to the palace period (Reg. No. 2669). Fig. 2 is a mace-head of brown sandstone, measuring 45 mm in height. It is exceedingly well made, and has a hole 10 mm in diameter bored nearly half way through from the base. It was found just below the surface of the northern limit of mound "A," and had evidently been washed out of a denuded chamber (Reg. No. 914; Baghdad). The evidence that this mace-head actually belongs to the palace is not very strong, it is true; but it should be compared with Fig. 3, found 3 m below the surface of the ground and close to the top of the footing of chamber 57; it undoubtedly belonged to an inmate of the palace.

This latter mace-head measures 69 mm in height by 61 mm in diameter at its widest part. It is pear-shaped and made of fine, white limestone which is almost polished. The hole through its centre is 11 mm in diameter in the middle, and splays out above and below to a diameter of about 13 millimetres. This mace-head has been slightly chipped at one side, and its surface shows in places that an abrasive was used to rub it smooth (Reg. No. 1389; Field).

Half of another mace-head of a very similar shape was found just above chamber 45. Its height is 48 millimetres. The hole for the haft, which is bored from either side so that the two borings meet in the middle, is far from central. This is probably accidental, but may have been intended to make the striking side larger and so to give the weapon the appearance of an axe. An illustration of this mace-head will be found in Plate XXXVIII, Fig. 11. The material is a cherty limestone, brown in color.

A fourth mace-head is illustrated in Plate XXXVIII, No. 11. Its height is 74 mm and its greatest diameter 58 millimetres. It was made of soft white limestone, and there is a large hole for the haft running right through it from the narrow end. This hole tapers towards the top exactly as in the early mace-heads of Egypt, with which it agrees also in other respects (Reg. No. 2475; Field). This mace-head was found at a level of the footing of chamber 27, at a depth of 2.50 m below the surface of the ground. Two broken pottery cups with pointed bases (Plate XXXVII, Figs. 4-5) were found together at a level of 1.40 m below datum, close to the southernmost column of the colonnade. They are of very thin and well-baked ware of a salmon-pink color. Both surfaces are fairly smooth and finished, but show slight wheel-striations (Reg. Nos. 1121 A and B). These two pottery cups were associated with rough dishes whose flat bases show focused grooves (Reg. No. 1121E; Field). From the fact that similar cups to these were found at a low level in a building of plano-convex bricks of early type some way north of the palace, it is certain that this pattern is an early one. Not a single example of this type of pottery has as yet been found in graves of later date in the ruins of the palace. A very similar pointed cup is shown on a bas-relief found at Nippur, and is pictured being held in one of the hands of the figures, as in the case of the female figure described above (Plate XXXV, Fig. 1).

The piece of mother-of-pearl in Plate XXXVII, Fig. 1, was found close to one of the pillars of the colonnade. It measures 43 by 40 mm, and is complete in itself. The incised design depicts a coiled beard or locks of hair which may belong to a bearded bull or to a figure of Gilgamesh (Reg. No. 1081; Oxford).[24] As mentioned above, six water-worn pebbles were found on the floor of chamber 15, some of which were marked with lines, suggesting that they were weights. These are reproduced in Plate XLII, Figs. 10-15 (Fig. 10 has as many as seven parallel lines incised upon it) and their weights are as follows:—

10	(2598 *d*)	3 drams	18 grains
11	(2598 *f*)	1 dram	5 grains
12	(2598 *a*)	4 drams	50 grains
13	(2598 *e*)	1 ounce, 1 dram	28 grains
14	(2598 *c*)	2 ounces, 5 drams	51 grains
15	(2598 *b*)	2 ounces, 2 drams	25 grains

With these pebbles were found three copper ingots (Plate XXXVIII, Fig. 2) the largest of which measures 12 cm in length and 1.90 cm in thickness. These ingots seem to have been run into simple moulds, probably holes in the ground. The lower end had been wrenched off one of them, and it is badly cracked as also is the third. As weights and ingots were found together, it is possible that the latter were used as currency (Reg. No. 2586; Field).

II. THE "A" CEMETERY KISH (Continued)

THE GRAVES

A total number of 154 graves has been found in the course of excavating the palace in mound "A." Thirty-eight of these burials were cleared and recorded in the season 1923-24, and are fully described in No. 1 of this volume. In the present issue the remaining 116 burials, which were found during the season 1924-25, are dealt with. They are all cleared and recorded by D. T. Rice whose services have been of great value to the expedition, as he is a trained anthropologist. The bones and skulls of the burials, therefore, received the attention they merit; this subject will be fully dealt with by Rice in a special publication. The numbering of the graves in this chapter starts from 39, it being thought desirable to carry on consecutive numbering rather than to begin afresh each season. This arrangement avoids possible confusion in referring to any particular grave.

Out of the 116 graves, 4 were of late date (Nos. 41, 44, 111, and 114); these will be described together at the end of this chapter. Of the remaining 112 interments, 56 were found intact, 12 had been slightly, and 44 badly disturbed. There is little doubt that mound "A" contained a great many more burials than it is possible to record. Many of these unrecorded burials had been badly denuded, and their pottery and other objects which met this fate are in nearly every case identical in form with those actually found in the graves. In some cases the contents of graves may have been thrown out by later comers. On the summit of the mound, moreover, were found the remains of walls of sun-dried, plano-convex bricks, more or less preserved, which are of the same date as, or even earlier than, the graves, as shown by the objects found among them. All this material found, whether it comes from burials or not, is of the utmost value, especially as it belongs to a period of the history of Kish, which, judging from the pottery, was not a very long one.

Unfortunately, it has not been possible to fix the exact date of the graves in any particular region, for none of the objects found in them bears inscriptions. There is, however, a rough means of dating them by comparing them with objects found at Lagash, especially the fragments of the famous Stele of the Vultures. In this stele, Eannatum II carries in his right hand a very curious staff shaped somewhat like the letter S and evidently composed of three flat pieces lashed together at intervals.[25] What appear to be similar weapons have been found in some of the graves in the "A" mound; they are illustrated in Plates XXXIX, Fig. 6, and LXI, Figs. 2-4, 10-11 (see p. 161). Carried in a quiver attached to the fore part of the chariot of Eannatum, the stele shows a number of arrows with double-pointed heads. A similar arrow-head to these may be seen in Plates XXXIX, Fig. 4 and LXI, Fig. 14. It was found at a depth of 30 cm below the surface of the mound, and although it cannot be dated with certainty to the period of the burials, there is a probability that it is of that date. Again, the battle axes carried by the soldiers

of Eannatum are identical with those represented in Plate LXI, Fig. 7, the majority of which were found in burials in the "A" mound. From this evidence, I think, the date of the "A" cemetery can safely be placed in the period of Kug-Bau of the third dynasty of Kish, who was contemporary with Eannatum II of Lagash, that is, about 3000 B.C. There is, however, another link in our chain of evidence. In Plate LIV, Fig. 57, a peculiar pottery jar is shown; it is exactly similar to a specimen, or specimens, found by Woolley at Tell el-Obeid and dated by him to the period of Mesannipadda on account of an inscribed gold seal which was found in one of the graves. Woolley's series of graves is not so old as he at first thought, for Mesannipadda is now placed by Sumerian scholars as contemporary with Kug-Bau and Eannatum II of Lagash. The evidence of pottery is perhaps more decisive than that of other objects, owing to the changes of fashion in pottery being fewer and less marked.

The preservation of the bodies varied greatly. As a rule, those lying at a depth of over a metre below the surface of the ground were in a better condition than those in more shallow graves. The reason for this is the presence of salt in the upper levels of the mound. When salt attacks a burial, the bones are reduced to a state of powder and appear as gray lines running through the soil. In a great many cases, therefore, it was impossible to determine the sex of a burial unless objects other than pottery had been buried with the dead. The determination of sex by associated objects, however, is not always reliable, and in so doing the greatest caution must be exercised. In a total number of 57 graves in which the bones were tolerably preserved, 36 of the burials appeared to be male, 21 female, and 16 those of children. In 38 graves there was no indication of sex. Eight of these last graves showed no trace of bones whatever, but only a group of pottery which suggests that the occupants were infants whose immature bones would easily disappear in soil of such salinity (burials 147-154).

Only one grave was found that definitely contained two bodies (No. 56), though it is suspected that when a grave contained more than one brazier or handled jar, it also once held the body of an infant in addition to the adult whose bones were found. The orientation of the bodies varied greatly, as in the case of the 38 graves cleared in the season 1923-24. The summary below shows the direction of the head in 71 burials, and the orientation of the body in 73 burials.

POSITION OF HEAD

N.	N.N.E.	N.E.	N.W.	S.	S.E.	S.W.	E.	W.	W.S.W.	
8	1	6	4	7	8	8	6	22	1	Total 71 burials

POSITION OF BODY

N.-S.	N.E.-S.W.	S.E.-N.W.	N.N.E-S.S.W.	E.-W.	E.N.E.-W.S.W.	
14	14	13	1	30	1	Total 73 burials

The lower limbs were usually in a partially contracted position, the knees about on a level with the pelvis. In graves 55 and 56, however, the lower limbs were extremely contracted. In 51 burials, the arms also were bent, and the

hands placed in front of the face. In 4 graves (39, 48, 56 and 75), one of the hands was used as a pillow and the other placed in front of the head; and in 6 burials, one hand was in front of the face and the other arm extended straight along either beneath the body (51, 60, and 104) or on it (65, 79, and 91). In all the graves except six, the head rested either on the soil or, in rare cases, on matting made of rushes. But in 51, 52, and 88, a brazier was used as a pillow, the head resting on its stem (compare burial 19 in last season's work). In grave 69 a handled jar, and in 125 and 135 other forms of pottery were used for this purpose (type E in grave 125; type C in grave 105). In burial 60 was found a brazier lying on the neck instead of underneath it, which can perhaps be explained by its having fallen accidentally into this position.

There is evidence that 3 graves (63, 91, and 121) were lined with reeds or reed matting. In the first, all that remained of this matting was a white powder, owing to carbonization. In the two last graves, however, the evidence was very clear. Grave 115 was lined with a coating of thin mud plaster and it was, therefore possible to ascertain its dimensions, namely 130 cm long by 105 cm wide and 55 cm high. This is the only burial of which it was possible to obtain the exact limits. Burial 85, which had been disturbed, was covered with the fragments of a large pot. As there were no pieces of the pot below the bones, it must have been placed over the burial instead of the burial being placed in it, as was often done in the case of children at a later period. Burial 65 was noteworthy for the phenomenal size of the bones contained in it. The associated objects suggest that it was the grave of a female, but the bones that it was that of a male. The grave was undisturbed, and the objects found in it included pottery, a toilet case, a hair-pin, ear-rings, a necklace, a knife, a razor, color-shells, and cylinder seals.

In my account of the graves that were found last season, written before the skulls sent home were examined by Dudley Buxton, I suggested that graves which contained hair-pins, toilet cases, etc., were probably those of females; but in the light of further research and the greater number of burials available it is now certain that the males as well as the females of those days wore hair-pins, carried toilet cases, and used cosmetics. The fact that the males of the period of these burials must have worn their hair long is important, and it is difficult to reconcile this fact with the statuary of the period, which always shows the head clean shaven. One explanation, however, is possible. The people represented in the statuary of the time may have acted in some priestly capacity, and therefore had their heads shaven—a custom that was common in ancient Egypt—whereas the ordinary folk, to whom most of these graves seem to have belonged, wore their hair long. Reference once more to the Stele of the Vultures lends support to this suggestion; the spear-men behind the figure of the king all have a thick pad at the nape of the neck, which seems to represent a knot of hair.

The dead were not only placed on the tops of the walls of the old palace and inside the chambers; a favorite spot for a burial was at the base of a wall, a portion of which was scooped out to take the body and funeral furniture. Burials in this position were always well preserved, for the wall above prevented undue

weight from crushing the pottery; but they were exceedingly difficult to clear, owing to the lack of space to work in.

Every burial of importance was tied in by means of the theodolite, and its level was taken both from the surface of the ground and in relation to our datum. The levels of the graves are given for reference at the end of this chapter. It will be seen that there is a considerable variation in level, the shallowest being only 20 cm below the surface of the ground and the deepest 4.06 centimetres. This range of difference can be accounted for in general by the fact that the presence of later walling on the top of certain parts of the mound has protected these portions from excessive denudation.

It must be admitted, however, that deep interments were found where no traces of later walling existed. It would seem that the use of the "A" mound as a cemetery extended over a considerable period, during which the mound was being added to by buildings in some parts and at others being denuded away by wind and rain. It is even possible that there was a considerable population on the mound at some period subsequent to the ruin of the palace; for the deep beds of ashes and broken pottery are found here and there, together with more or less whole pieces of pottery, such as the pans illustrated in Plate LII, type G. These pans, not one of which was found in a grave, were doubtless intended solely for kitchen use, and belonged to houses all traces of which have now disappeared. Heavy ware like this was never found in graves, nor could it have formed part of the funeral equipment, though the fact that it belongs to the same period as the graves is proved by its association with many of the forms of pottery now familiar to us in connection with the burials.

A sufficient number of graves has not yet been found to formulate definitely a sequence of pottery for dating purposes; but burials 53 and 58 are helpful in this direction. The former had been much disturbed by the digging of 52, and the latter wrecked to provide a place for 56. These burials could thus definitely be said to be of earlier date than the two that were cut into them. From the presence of the gold objects found in burial 51 (Plate XLIII, Fig. 8) and the gold chain illustrated in the same plate it is probable that a considerable amount of this metal was buried in "A" cemetery, which, however, has been looted. No less than 44 out of this year's total of 116 graves were found to have been rifled. This figure does not include those graves—if such they can be called—which contained one or more objects, but no bones or signs of a burial. In all probability the number of burials in the mound ran into many hundreds of which it has been possible to clear away only a small proportion.

PIGMENT SHELLS

As was the case last season, shells were commonly found in graves of both sexes. In grave 136, three were found, and in grave 68 no less than four, but usually the two valves of a shellfish were used. Of the shells in burials 68 and 136, one or two contained kohl; another, a pasty white pigment. In each case one

does not seem ever to have contained any color. The white pigment in some of the shells shows a slight tint of green, which may be the result of decomposition. The original color, however, may have been green, which afterwards faded into white. In each of the 4 graves (51, 80, 105, 118) there was a shell containing a red pigment; in two cases with a male burial, in another with a female, and in the fourth with a child. A yellow pigment, which is a form of yellow ochre, was found in a shell in burial 9—the only example of that color that has been found. Again it was found that some of the shells appeared to have been especially prepared for burial, for a dab of black pigment was frequently found laid on the white pigment, which would hardly have occurred in actual use. In grave 91, the two valves of an oyster (*Ostrea edulis*) were found in the place of the usual Cardium. Traces of a white paste were found in each valve the largest of which measured 74 mm across. The second was slightly smaller, and was broken at one side.

In burial 135, a pair of copper saucers was found, each measuring 57 mm in length, 48 mm in width, and 18 mm in depth. They are stuck together by corrosion, face to face, in a position in which pigment shells are usually found, and in consequence their contents have not yet been examined (Reg. No. 2714; Oxford). A pair of Cardium shells made in copper and evidently belonging to a grave was found at a level of 47 cm below the surface of the mound. Both of these contained the remains of a black powder. A mould of an ordinary Cardium shell had evidently been taken and copied in metal (Reg. No. 2553; Field).

RUBBING STONES

These were again found, in the graves of adults of both sexes as well as of children. Of a total of twenty pieces of sandstone discovered, ten were close to the head, five immediately behind it, and five close to the pelvis. The texture of these stones, which resemble concreted silver sand, is much too coarse for them to have been used for depilatory purposes. That they were not used for this purpose is proved also by the fact that examples were found in the burials of three small children. Some of the stones are smooth and look as if they had been worn so by use, whereas others are irregular with the appearance of having been freshly quarried. The comparatively small number of stones found suggests that they were not always considered an essential part of the funeral equipment. Again it was found that salt had broken up many of these rubbing stones and had left them in an extremely friable state.

AMULETS

These are rather uncommon, unless it may be supposed that stone beads had talismanic powers. The two amulets numbered 3 and 4 in Plate LX are especially interesting, as they are copies of shells made in lapis lazuli. They were found among other pendants in burial 117 (Reg. No. 2510; Field). Real shells occur very rarely in necklaces, two only having been found, in burial 142. A rare amulet is a fly cut in lapis lazuli, which was found in burial 88 (Reg. No. 2262; Baghdad).

Representations of this insect were worn as amulets in Egypt in the twelfth dynasty. The frog was also used as a talisman. One example was found in each of burials 59 and 100, and two in burial 63. In all cases, the animal was small and carved in lapis lazuli; the burials were all those of children. The beetle also occurs as an amulet. The example shown in Plate LX, Fig. 50, was found in burial 63 (Reg. No. 1998; Field). The glazed example shown in the left-hand lower corner of Plate XLII, Fig. 16, is still more obvious. It was found in burial 152, which, as no bones were found though the burial was otherwise intact, was probably that of an infant (Reg. No. 2394F; Field).

The object of lapis lazuli shown in Plate LX, Fig. 61, was found with some beads that had been washed out of a burial. It was evidently used as a divider, for four small holes were bored through it to take the threads of a four-stringed necklace. The resemblance of this object to an insect warrants its inclusion in this section (Reg. No. 2196; Baghdad).

Fish resembling carp cut in lapis lazuli were found among the beads contained in burial 117 (Reg. No. 2510; Baghdad). The second object in Plate XLII, Fig. 16, is made of shell, and represents a bird, perhaps an eagle, with outstretched wings. One side of the pendant, which is flat, is a natural pink, and the other is white; there is a hole at the top. This object comes from grave 140, where it was found together with a single carnelian bead (Reg. No. 2797; Baghdad).

The third object in Plate XLII, Fig. 16, was found just below the surface of the ground covering the palace. It is made of mother-of-pearl, and represents a lamb with all four legs tucked up underneath it. There is a hole in the middle of the back to suspend it. This object is probably a piece of inlay of earlier date which had been re-used for personal ornamentation at the graves period (Reg. No. 2800; Field).

The fourth object was found with a pottery group which evidently belonged to the period of the cemetery, but with it there were no bones to mark it as a burial. It is of glaze and 20 mm long. A small hole at the top permits of its use as a bead or pendant. Undoubtedly, some species of beetle is represented here, for the thorax is clearly indicated. In fact, the form of this amulet recalls certain long-legged gray-brown beetles which frequent the excavations in large numbers (Reg. No. 2394F; Field).

The pendant which is shown as the sixth in Plate XLII, Fig. 16, is exceedingly well cut in lapis lazuli, and was found 3 m below the surface of the mound. It is 18 mm long, 16 mm high, and represents a bull in a couchant attitude with face turned to the front.[26] A small hole runs through the figure lengthways, by which to suspend it. Though not found in a burial, it obviously belongs to the graves period (Reg. No. 2233).

GLAZE

Glaze was again well represented in the graves, both in the form of beads for necklaces, the heads of hair-pins, and more rarely spindle-whorls. The unusual objects shown in Plate XLIII, Fig. 2, are also glazed. They were found together in

a jar in burial 92, and are practically the same size, averaging 134 mm in length by 18 mm in diameter at the base and tapering gradually to 12 mm in diameter at the tops. Each is a hollow part way through from the top. They are made of a porous white paste which was glazed either blue or green; indeed, they still bear traces here and there of an apple-green color. At a distance of about 35 mm from the top, each of these objects has a hole similar to that seen in the middle specimen of the group. The spiral inlay is of bitumen, and is an average of 2.50 mm thick. What these objects are is difficult to say; but it is probable that they are handles, though the diameter of their holes (7 mm) would not permit of the insertion of a tang of any great thickness. The jar in which they were found protected them from injury except at the apex (Reg. No. 2291; Baghdad, Field, and Oxford).

In accordance with the discoveries of last season, blue seems to have been the color chiefly used for glaze, but we found a few glazed beads now black, which may originally have been red. We also found four glazed cylinder seals. Glaze would seem an unsatisfactory material for this purpose, because it is likely to fracture under pressure. But beauty was doubtless considered before utility on some occasions, for two of the seals come from children's graves and one from that of a woman (graves 45, 59, 144). The fourth was found elsewhere, not in a burial.

METALS

The metals found in the graves cleared this season were gold, silver, and copper. No lead was found as last year. The probable sources from which these metals were obtained were dealt with in No. 1 of this volume, to which reference should be made. Special analyses are being made of the metals of some of the objects found this season, and the results will be published in due course.

MINERALS

The Sumerian of the time of the burials at "A" used but a small variety of minerals in the manufacture of his ornaments and seals, owing chiefly to the fact that he inhabited a practically stoneless country. Lapis lazuli and carnelian, however, were exceedingly common, and from these stones he fashioned most of his beads. Other varieties of stone were sparingly used for this purpose, including limestone, crystal, agate, onyx, red jasper, porphyry, etc. The stones used for his cylinder seals were serpentine, lapis lazuli, crystal, calcite, limestone, and breccia. These were either brought into the country as raw material, or were manufactured outside and imported in the way of trade. I am inclined to take the latter view for the following reasons:—(1) The curious diversity in finish of the stone beads fully discussed in No. 1 of this volume; it must be admitted, however, that cylinder seals made of lapis lazuli are invariably well made and in many cases highly polished. (2) The small number of the stone vessels found in the graves showing their comparative rarity at that period. Their scarcity is also proved by the fact that broken specimens were placed with the dead, as well as specimens that had been anciently broken and then ground down to make them serviceable once more. All this points to the conclusion that stone vessels were not manufactured in

Sumer, but were imported. Owing to the nature of the country, the Sumerians, when in Mesopotamia, were an agricultural and pastoral people, the frequent little wars among themselves preserving their ancient virility which was only overcome by hardier peoples from the hills, in some cases from the north and in others from the east. That the Sumerian was originally a hill man is the view of many authorities, and it was only when he was among the hills that he could obtain the necessary materials for stone-working. When he left the heights for the plains, however, he doubtless still kept up a connection with his ancient home, and still availed himself of its products, though the demand for them, as shown, for instance, by the decreasing use of stone vessels, gradually lessened as he became accustomed to his new environment.

TOYS

Although numbers of pottery toys, knuckle-bones, and draughtsmen lay about among the graves, obviously left there by children who used the cemetery as a playground, practically no playthings were found in the burials. Knuckle-bones occurred in two burials only (Nos. 97 and 136). In No. 97, which was a child's burial, a single bone lay close to and in front of the face, and in No. 136, which was an adult's, there were two bones close to one of the hands. These bones were those of a sheep or goat and were exactly similar to the knuckle-bones that are used in Iraq at the present day.

IVORY

This is a material which up to the present had rarely been found in Mesopotamia. The handle of a fine gold-mounted dagger found in burial 104 and illustrated in Plate XXXIX, Fig. 8, was carved in ivory. It is fully described in the following chapter. The ivory comb shown in Plate LIX, Fig. 6, was found at a depth of 2 m below the surface of the ground at "A," and evidently belongs to the burial period (Reg. No. 2730; Field). The source from which the Sumerians obtained ivory was probably India, although it must be taken into account that the elephant is spoken of as having existed in Syria in historical times.[27]

SHELL

Shell is fairly well represented in the graves. As before mentioned, cockle and oyster shells were used to hold cosmetics. Shells of this order (Triton) were apparently used as beakers, as described below. Shell matrix was also used, but very sparingly, to make pendants for necklaces, some of which are shown in Plates XLII, Fig. 16, and LX, Figs. 8, 11 and 13. Thin slips were cut into animal forms and perforated to be threaded in a string. The same substance was also used for other purposes, for instance, for buttons and medallions (Plate LX, Figs. 6-7), for spindle-whorls (Plate LIX, Fig. No. 18), and for beads. Shell beads are rare, on the whole; they are fully dealt with in the chapter on Personal Ornaments. The use of shells for cylinder seals was, however, very common.

UNUSUAL OBJECTS

In seven burials (43, 75, 88, 90, 104, 120, 128) were found cups made by slicing off the top of an ostrich shell, leaving about three quarters for use. The cutting seems to have been done in every case by carefully chipping the shell all the way round. A shell cup found in burial 90 had a pottery neck and rim, overlaid with bitumen, in which pieces of shell inlay were embedded. Unfortunately, this was in such a broken condition that it can neither be photographed nor drawn until it is repaired (Reg. No. 2274; Field).[28] The same applies to the plain shell cups, all of which were found in small pieces. In three instances, these shell cups were found at the back of the head; in one case, close to and behind the pelvis; in another, close to the feet; and in two graves, the position of the cup with regard to the body could not be ascertained. These shells doubtless came from the Arabian desert, where the ostrich still exists.

The ornamented neck and rims of the shell cup found in burial 90 is similar in technique to two similarly ornamented pottery cups found in burials 88 and 90 (Plate XXXVIII, Fig. 1). Both these cups belong to type O pottery, and are coated inside and outside with a thick bitumen plaster, into which have been inserted, as an ornamentation, pieces of shell cut from the mussel that is still common in the Euphrates (*Anodonra*).[29] The sides of each cup are plainly ornamented with four leaflike pieces of shell placed vertically. The outside of each cup, though coated with bitumen, is unornamented. Both these cups were found close to, slightly above, the heads of the burials. The one shown on the left measures 57 mm in height by 100 mm in diameter at the rim (Reg. Nos. 2273 and 2256; Oxford and Field).

In burial 142, close to and behind the head, the interesting shell beaker illustrated in Plate XXXVIII, Fig. 3, was found. The shell measures 175 mm in length; the columella and a portion of its wall have been cut away so as to form a cup. Near the apex, two circles have been lightly incised presumably to represent eyes which are framed on three sides by a border of three parallel lines set close together. Inside the shell there are still traces of a black pigment resembling kohl. This species of shell may have come from the Persian Gulf, where it is still common (Reg. No. 2829; Oxford).[30]

SUMMARY

Even from the comparatively small number of graves found in the palace mound it is possible to gauge, more or less, the characteristics of the people who were buried there. The Sumerian of the middle and lower classes was of medium stature, with a tendency to dolichocephaly, as shown by the skulls and bones found in the graves. That he was accustomed to hard foods, such as grain, is proved by the worn nature of the teeth in some of the skulls. Men as well as women wore long hair, as shown by the numerous examples of copper hair-pins found in the graves of both sexes. The unusually large size of many of these pins indicates that the hair was plentiful and thick. Men as well as women wore silver and copper ear-rings—as a rule, one on each ear—as well as beads of some-

what crude design threaded in one or more strings. A strong belief in an after life is implied by the large quantity of pottery and other objects buried with the dead, but the fact that this belief was in some respects rather vague is shown by the lack of any fixed orientation of the body and head. Both sexes were accustomed to use kohl for the eyes, and the use of cosmetics was general among men, women and even children. That the women as well as the men were continually engaged in agriculture seems to be proved by the presence of foot rubbers in their graves. Evidently, both men and women were unaccustomed to sandals, and required some aid to remove hard skin from the feet.

The men carried weapons, such as daggers and battle axes. It is obvious that, as at the present day in Mesopotamia, life was not always serene and that constant watchfulness was necessary, the principal danger being, as now, raids from adjoining tribes or from the powerful city states in the south. That linen clothing was worn is proved by samples found in the graves, but only where it had come into contact with copper, and was preserved by the oxidation of the latter (graves 51 and 57). From the seals it is apparent that the garment worn by the men took the form of a simple kilt, the better classes being clothed above the waist in a kind of shawl that was carried over the left shoulder and under the right arm. Women are not portrayed on the seals, but silver medallions found in the graves show that they were clothed from the neck, the medallion serving to decorate the garment at the breast, and perhaps also to fasten it.

It was probably the work of the women also to prepare the yarn for the weaver. Spindles and spindle-whorls have been found in one female burial this season and in another last year. In these two cases, the articles, which were made of copper, were preserved intact, but whorls, whose spindles were of wood and consequently had decayed, were also common in the mound. Linen and wool were the only materials that were spun, and clothing made from the latter was probably confined to outer garments. There is also evidence from one grave that ornamental leather work was known. A dagger-sheath of leather has left its imprint on a blade in the form of an elaborate border enclosing a fine design in diaper tool work. The sheath itself disappeared long ago, but its pattern has been preserved owing to the oxidation of the metal. Leather work is to be expected among a people engaged in agriculture and pastoral pursuits, but it is exceptionally fortunate to obtain this glimpse of the sort of work that they produced (Plate LXII, Fig. 19).

Many of the men as well as the women were accustomed to wearing a silver or copper fillet around the forehead. Two definite examples of a nose ornament have been found in adult graves (burials 63 and 128; Plate LIX, Fig. 28), and two studs of silver found in a child's grave prove that this form of ornament was also worn by children (burial 100; Plate LIX, Fig. 24). Men and women carried toilet sets in a small copper case, such as are still carried on a string around the neck by men in northern India. The case contained various implements including tweezers, ear-picks, prickers, and sometimes a small blade. In the graves of the "A" cemetery, the usual place for these toilet sets was near the pelvis, showing that

they had been carried around the waist. In two graves, however, they would seem to have been worn on a string around the neck as in India. The presence of these toilet articles which are always associated with other objects of the better class suggests the cultivation of personal cleanliness.

The opinion that the Sumerian of the period of these graves was not unduly superstitious is upheld by the lack of amulets buried with the dead. Where found they are in most cases in child burial, and they were perhaps worn in order to endow the child with special virtues, rather than to protect it from malignant forces. The large carnelian beads, however, may have been worn as a charm; this was the case in ancient Egypt.

GRAVES OF A LATE PERIOD

To avoid confusion, the four graves which were of a later date than the rest of the burials will be described in full below, rather than included (as they are by number) among the Sumerian burials. Their positions are shown in the skeleton plan of the palace, marked in the same way as the early graves.

Burial 41. Head to N. W., placed vertically so as to look towards the S. E. Body on back with arms crossed over the chest. The legs were straight. There were no objects associated with this burial. Sex male. Date(?).

Burial 44. Head to E.N.E., on the left side facing toward the east. The body lay on its back with legs outstretched, humeri along the sides, and forearms crossed over the pelvis. An iron bracelet was found on the left wrist. A brick of the Nebuchadnezzar period was lying close to the head, and a number of pottery sherds were placed above the body. Sex, male. Date: Neo-Babylonian.

Burial 111. Body lying E. N. E. to W. S. W., with head to E. N. E., in a pottery coffin measuring 149 cm in length, 51 cm broad at the head, and 37 cm broad at base, the depth being 18.50 centimetres. The coffin is flat-bottomed with rounded end, and is covered with a shallow lid rounded on the top. The body was fully extended in the coffin, and lying on its right side. No objects were found with it, though the grave was undisturbed. Sex unknown. Date: probably Greek.

Burial 114. The body lay in a coffin of coarse baked clay 86 cm long, 50 cm wide, 54 cm inside depth. On the outside of the coffin, 28 cm from the top, there was a notched band. The coffin was orientated N.-S., and the body lay on its right side with the head to the north. Considerable pressure must have been exerted to get it into the coffin. The bones, apparently those of a female, were in a bad state of preservation. Outside the coffin on the north was a shallow bronze dish with a small raised boss in the centre (Reg. No. 2487; Baghdad). There was a string of beads on the body (Reg. Nos. 2498, 2499; Field), and a bronze ring, together with the human-like object shown in the upper left-hand corner of Plate XLII, Fig. 16 (Reg. No. 2499B; Field). The beads (some of the shapes are illustrated together with the ring in Figs. 19-20 in Plate LIX) are made of amethyst, green feldspar, onyx, carnelian, agate, breccia, jasper, lapis lazuli, crystal, and glaze, and include also an uninscribed seal. Date: Neo-Babylonian or even later.

POTTERY

This chapter deals with the pottery found in the graves excavated this season, but reference should be made to the account given in No. 1 of this volume of the series of pottery discovered last season (1923-24). The system of denoting types by letters is again employed for convenience of reference. Entirely new types have been found and added to the list, while old types have in some cases been subdivided. For example, type K in Plate LIII will be found to be subdivided into two groups—those with circular rims and those with a spout on one side. The latter group is designated type KA, the first letter showing the group to which it belongs, and the second that it is a variation from the normal type. Each piece of pottery bears a second number. This is the number of the card on which it was registered. Every group of pottery as it was taken from the grave was immediately recorded on a card, and each particular piece of pottery in the group distinguished by placing a letter after its registration number. Each was fully described on the card against its letter. This system makes for convenience of reference, as all the pottery of a particular group is recorded on the same card.

Out of the total number of 112 Sumerian graves cleared this season, eight contained no pottery, although other articles found in them proved that they belonged to the Sumerian period (burials 48, 50, 59, 85, 100, 107, 130, 145). Three of these burials (48, 59, 100) were those of small children, while the rest belonged to adults of both sexes. As a general rule, from six to eight jars were found in a grave, most of them of ordinary shape and form. The largest number of types found in a single grave was twelve. This burial (87), which was that of a male, also contained a number of other interesting objects. In each of the burials 136 and 147 there were nine types of pottery, some of which are quite unusual. Little regard can, however, be paid to the number of pottery types found in a grave. A large proportion of the burials had been disturbed anciently, and may originally have contained more types than those actually found in them. From burial 106 were collected twenty-one jars of eight different types, despite the fact that the burial had been disturbed.

As in the burials cleared last season, the most common jar is type C. One or more specimens of this were found in every grave. Next in order of frequency are types A and B, followed by type K. The rarest types are D, N, P, Q and R. It should be noted that not a single example of the heavy pans shown as type G in Plate LII was found in any of the graves, although there were numerous examples in the mound itself. As mentioned in the last chapter, this pottery evidently belonged to houses which had existed on mound "A" at the date of, or before, the cemetery. This pottery was probably exclusively reserved for kitchen use.

The pottery buried with the dead was almost always wheel-made, with a few exceptions, such as type J (Plate LII), which was doubtless made for special purposes and valued accordingly. It is still impossible to state that any particular

position was allotted to any one type of pottery, except that in general a small dish or jar, of types K, KA, and O, was found in front of the face, in some cases between the hands, as if held by them. Types A and B were as a rule close to and behind the head. In three burials (51, 52, 88), as before mentioned, braziers were used as a pillow, in another burial (69) a handled jar served this purpose, and in two, other types of jar were used as pillows (type E in grave 125, type C in grave 135).

All the pottery, with the exception of some of the simpler forms, like type K and O, is well made and baked, and the workmanship is creditable. The clay which was used contains very little foreign matter, and is well kneaded, fresh fractures showing a surprising absence of porosity. The baking is just sufficient and not overdone, the resulting color being a light red. Some of the pottery is thinly coated with a slip, but in general, the surface is left untouched. A handled jar from burial 52 was found to be thinly coated with a slip, though this finish is associated more with type C than with any other type. Most of the pottery is thick for its size, and not a single specimen was found in the graves or outside them of the ultra-thin pottery associated with very early sites. Decoration is confined to the handled jars and braziers, also to special pieces of pottery to be described below. Not a single painted jar, or fragment of one, was found, showing that at that period this method of ornamenting pottery was no longer employed. Painted pottery was found, however, in plenty at a site about 15 miles northeast of Kish, which is of an earlier date than the "A" cemetery.

A new variety of type C was found in graves 77, 95, and 120 (Plate LI, Figs. 12, 14, and 16). These jars are made of a thick grayish-black ware whose surface has been rubbed smooth with a pebble or piece of bone. The paste of which these jars are made is very compact, and shows little fissuring. This could hardly have been the case, if the coloring matter mixed with the clay had been such as would easily carbonize in the baking of the vessel. The color of this ware seems to have been produced by mixing with the clay a coloring matter which even the baking process left unchanged. Various forms of carbon could be used for this purpose, though it would have to be in small enough quantities not to destroy the coherence of the clay. This necessity probably accounts for this kind of pottery never being a true black, but an ashy-gray color.

Curious and difficult of explanation is the fact that in this polished pottery the neck and rim are always left unpolished, which suggests that the intention of the polishing was to render the jar waterproof rather than to ornament it. The polished surface of this kind of ware forms a skin which, owing to the amount of salt with which the jars are now impregnated, is easily detachable. It is about half a mm thick. A special slip was used, though there is no difference of color between this slip and the paste forming the body of the ware.

A simple bowl in burial 74, with rounded base (compare No. 11 in Plate LII) and four similar bowls found in various parts of the mound, but not associated with any other objects, were made of this dark ashy-gray paste and polished inside and out. The surface formed was smooth, but shows a slight amount of undulation which is due to the make of the dish. It is perhaps best described as

semi-polished. But the ware is always thick and clumsy. They were probably used for food, and the object of polishing was to facilitate the proper cleaning of the bowl after use. A fragment of a round-based bowl similar to Fig. 46 in Plate LII of the same dark polished ware was picked up on the surface of the mound. I would provisionally date this dark polished ware to the latter end of the grave period, owing to the fact that the jars of type C, which were so treated, are decadent in form. But more examples must be found before this suggestion may be finally accepted. The small jars of type N, illustrated in Plate LIV, fall into another category. Though they are made of the same kind of clay as the rest of the pottery, they are differentiated by the semi-polished red slip with which they are covered. This slip has been carefully rubbed over with a bone (?) implement, whose marks appear as broad lines.

An unusual type of pottery found in the "A" mound is illustrated in Plate XLV, Figs. 3-4. No ware of this kind has yet been found in the graves, though there is reason to think from the levels at which these objects were found that they belong to the period of the graves. This pottery is fully described in the last chapter. I am inclined to think that the three hemispherical moulds—for moulds they must surely be—were used to model paste of fine texture, which was subsequently glazed. All three examples are too thin to mould ordinary clay, but they could be used effectually with gypsum plaster or in some similar material without risk of breakage.[31]

The people living at the period of the "A" cemetery evidently realized the advantages of the ring base for pottery; it appears in most of the types, especially in the larger jars. Most of the very early pottery of the Sumerians has round or pointed bases, which were suitable enough in a sandy country. Such primitive jars are, however, useless on hard soil owing to their liability to upset, and rings of plaited grass or something similar were probably found to give the necessary support. It was only a short step from this to make pottery stands of clay, which were eventually attached permanently to the rounded bases of the jars when they came off the wheel. In some cases, the bases of the jars did not adhere properly, possibly owing to different degrees in the plasticity of the clay, the jar being allowed to dry too much before the ring was added. The result is that the ring base often became separated from the rest of the jar.

It is noteworthy that pottery of practically all the types found in clearing the burials is better finished at the neck and shoulder than at the base. Indeed, all the larger jars are made in two or more parts, which were put together while still damp. Especial care seems to have been taken in fashioning the upper part, including the rim, neck and shoulder.

I should like to see in much of this pottery, especially in types A and C, a survival of leather and basket work. The beaded rims certainly suggest two edges stitched together, and the notching may represent the overcasting of the cord or thread. The turned-down rims found in a considerable portion of the pottery can also be associated with basket work and with metal work as well. The decoration always present on the shoulders of the handled jars is certainly derived from basket work.

It is significant that the spouted vessel (type D)—only six examples of which were found in the actual burials (81, 87, 96, 149) this year and two during the season 1923-24—no longer occupies a prominent position in Sumerian pottery. If it had been much in use at the period of the "A" cemetery, more examples would surely have been found in the burials, though the types shown (Plate LI, Figs. 18 and 20) must all have been thrown or washed out of graves. Only one example was found of a spout in graves dated to the first dynasty of Babylon, nor do spouts occur in any vessels in the numerous graves of Neo-Babylonian date, which have been lately excavated at Kish. The date of the re-appearance of spouted vessels in Mesopotamia is open to conjecture. They are now in common use among the Arab tribes, and seem to have been re-introduced from the north or from Syria, which country originally borrowed the idea of the spout from the Sumerians. The earlier type of spouted vessel seems to have had a globular body. Such a one was found below the footing of the palace, and is of the same date or even earlier. Globular jars with spouts are also associated with the painted pottery which has been found on a site about fifteen miles N. E. of Kish.

HANDLED JARS TYPE A Plates XLVIII-XLIX

As was the case in the previous season, a handled jar was found in nearly every grave, the only exceptions being burials that are poor in other respects also. No less than three specimens were found in burial 40, and two in each of burials 47, 97, and 154. Where more than one example of these jars were found in the same grave, it is probable that the grave had more than one occupant. There are no actual indications of this, but the bones of very small children disappear in certain soil. Kish still remains the only place in which this type of pottery is known to have been used. It was not found at Asshur, though a small number of its companion type, the brazier, was unearthed there. Banks found many objects of the same kind as occur in our burials at Bismya, but he records no occurrence of the handled jar at that site.

After working over the numerous tablets found in mound "W," S. Langdon reports that the ancient temple of Harsagkalamma is definitely fixed as lying hidden beneath the mounds at Ingharra. In all probability, therefore, the female figure on the handle of type A jars represents the mother-goddess Aruru. The most important of the handled jars found this season are illustrated in Plates XLVIII and XLIX, and some of their handles in Plate XLV. Where a jar is not considered of sufficient interest to be drawn in full, but was decorated with an interesting pattern, the pattern alone is reproduced.

Two variations of type A, which have the spreading base characteristic of type E, have been found this season. They are illustrated in Plate XLVIII, Figs. 1-2. Apart from these two jars, it will be seen that the handled pottery found this season conforms in shape and technique to that described in No. 1 of this volume. The decoration is, as before, confined to the neck and shoulder of the jar. Three exceptions have, however, been found this season. On a jar from burial 79, a zig-zag line resting upon a base line runs around the vessel at a con-

siderable distance below the notched beading at the shoulder (Plates XLVIII, Fig. 6 and XLIX, Fig. 2). In burials 90 and 121, a zig-zag line alone encircles the body of the jar immediately below the shoulder. It seems to have been an invariable rule that this type of pottery should be decorated, the only exception being the example from burial 120 in Plate XLIX, Fig. 1. The small jar shown in Plate XLVIII, Fig. 18, is also undecorated, but its size and roughness of make prove it to be the work of a child. The decoration was done with a comb in some cases, and in others with a single point. I have not been able to determine whether the one method is earlier than the other or not; they appear to be contemporaneous, as are also jars which are carefully decorated and jars which are not.

On these jars which have either no beading or a very rough one, at the junction of shoulder and body, the decoration is usually done with a single point. These vessels are of a degraded type, in form as well as in decoration, and may well belong to the latter end of the period of the graves. Examples are shown in Plate XLVIII, Figs. 3-5, 7-10, 17, and 21, all of which were actually found in burials, except Fig. 7, which was found with Fig. 4 in Plate XLIX at a level of 2 m below the surface of the mound. The latter, however, certainly cannot be regarded as a degraded type, either in decoration or form. Moreover, its design was made with a comb.[32] The zig-zag line, or rows of chevrons, bounded by a line above or below them or both, is the most common motif of decoration. If the triangles thus formed are hatched in, they are always represented with their apices upward, except when a double row of triangles appears; then the upper rows always have their apices downward. In no case is the design so carefully done as to permit of the apices of triangles meeting exactly to form a simple definite design.

In the better finished jars, great attention was paid to pricking all round the junction of neck and shoulder—a feature not found in the jars with cup-bases or lacking definite beading at the shoulders. The punctures are usually small and roughly made, as in Figs. 6, 15, 20, 22-24 of Plate XLVIII and Figs. 2, 3, 6 of Plate XLIX. In rarer cases they are rough vertical or oblique scratches as in Figs. 11 and 12 of Plate XLVIII; these are sometimes arranged chevron-fashion, as shown in Figs. 16 and 21 of the same plate.[33] In three jars, the lower part of the neck is ornamented with rough scratches, as in Plate XLVIII, Figs. 23-24; in Fig. 9 there is a definite design, and a single combed band in Fig. 14. The combs used in the design seem to have had an average number of four teeth.[34] It is possible, however, that the tool used was so held that more or less teeth could be used at will to make the impressions required. No particular care was employed in the use of the comb to ensure regularity of the lines, with the result that they frequently overlap and combine with one another.[35]

The projecting beading at the junction of the body and shoulder of jars of this type is described and discussed in No. 1 of this volume. In only one case was this left untouched (Plate XLIX, Fig. 3). The jar shown in Plate XLIX, Fig. 1, is unique on account of its flat base and total lack of decoration. Some new varieties of handles have been found this season; they are shown in Plate XLV, Figs. 6-9, 11-13. The handles, of which examples are shown as Fig. 9 in this plate and Nos.

15 and 22 in Plate XLVIII, are very curious. They are obviously a degradation of the ordinary figured handles, though the jars to which three of them belonged show no signs of degeneration in type. Six examples of such handles were found, four coming from burials 40, 91, 94, and 96 and two from the debris of the mound. The latter had become separated from the vessels to which they belonged.

The handles of the jars from burials 40 and 91 are thick, rectangular pieces of clay with no ornamentation or features (Plate XLVIII, Fig. 4). Those of the jars in burials 94 and 96 are broad and flat, and extend only half way up to the rim (Plate XLVIII, Figs. 15, 22). In the latter, the face of the handle is ornamented with a six-armed cross, each arm being made up of two lines; the top of the handle is in the shape of a double bow. Of the remaining two handles, one is decorated similarly to the handle in Fig. 22, but with single lines instead of double (Plate XLV, Fig. 9); the other has a more elaborate pattern consisting of a central vertical line with simple V-shaped markings on either side. An exactly similar handle to the first of these two was found on the summit of Tell Ahaimir between two bricks, whither it must have been brought in the mud used as mortar. The bases of some of the handles in Plate XLV, Fig. 13, show the way in which they were attached to the jars. From the care with which these handles were secured (the method is discussed in No. 1 of this volume) it is certain that they were used to lift the vessels, despite the fact that the upper ends do not adhere to the rim of the vessel.

The same method of fastening was employed for the flat type of handle as for the hollow ones. The latter, a specimen of which is shown in Plate XLV, Fig. 8, of course required a larger hole; that there was some difficulty in fixing them in position is suggested by the comparatively small number found. The hollow handles communicate at their bases with the interiors of the jars. Jars with hollow handles were found in burials 52-55, 61, 75, 79, 90, 101, 104, 109, 110, 121, 122, 144, and 150. I am inclined to see in these handles evidence that they are survivals of the spout with the mouth pinched flat to close it. If this be so, the hollow-handled type of jar should be earlier than the jar with a flat handle. If this be correct, the spout would be the origin of the handle of whatever sort in Babylonia; though how much handles were used, and what were their shapes in the period succeeding the burials, are questions which still await archaeological investigation. The exceptional strength of the handles, the way in which they are secured, and the durability of the jars to which they belong suggest that they were not used for ordinary purposes. It is obvious that these jars with their small necks were intended to hold water, and I would suggest that they were employed to carry sacred water for ablutions, either from the temple to the home or from the sacred river (Euphrates). The figure of the goddess on the handle surely points to these vessels having a sacred use. If this surmise be correct, the fact that one is found in practically every grave is not surprising, and the apparently local nature of these jars is also explained.

Two most interesting handles are shown in Plate XLV, Figs. 11 and 12—the first from burial 53 and the second from burial 93. In both these examples (and

it occurs in no others) the mouth is shown as well as the other usual features. A breast is missing in each case. The presence of the modelled eye-sockets in Fig. 11 is very unusual, and it is noteworthy that they show no tendency to the obliqueness present in the Mongolian races (Reg. No. 1912; Oxford. Reg. No. 2320D; Field). An attempt at modelling is also shown in a handle from burial 136, where the pupil of the eye is indicated by a small pellet of clay surrounded by a narrow circular strip of the same material.

The tree-like pattern down the centre of the breast in Fig. 11 (perhaps the representation of a palm-branch) is also to be found on the handles of the jars from burials 63, 117, and 147, as illustrated in Fig. 13, handle 6, of the same plate. This motif is also found on a jar handle from burial 87, where it is placed on either side of the handle, on the right with the leaves growing upward, with the leaves downward on the left. The same design too occurs on the shoulders of some of the jars, immediately to the right of the handles of vessels from graves 69, 82, and 142. On a handled jar from burial 154, three trees alternate with hatched triangles and chevrons in the decoration of the shoulder. It should be observed that this tree or palm-branch design is practically identical with that on the pottery dish and moulds illustrated in Plate XLV, Figs. 3 and 4, which is one of the reasons for concluding that the latter belong to the same period as the graves (see last chapter).

A common feature in the decoration of the handles is a pair of oblique lines, which start from the breasts or from the top of the handle and cross each other in the middle, as in Figs. 7 and 13 of Plate XLV. This occurs so frequently that it must have had some significance, though what it was is difficult to say. On the handle of the jar from burial 105, each of these lines is doubled, and triple lines appear on another from burial 117. In general the handles of these jars closely resemble those found and described in the preceding season. A few additional points of interest have, however, come to light. In those cases where brows are represented by the addition of strips of clay above the nose, they are always very pronounced and suggest rather prominent supra-orbital ridges, which are a noticeable feature in some of the skulls recovered from the graves. The brows in Fig. 12 are unique, inasmuch as lines which are parted in the middle are incised upon them to represent hair. The nose is always prominent on handles where features are represented at all; in no case has it ever been found portrayed by lines or incisions. The breasts also are always very noticeable. Only in three handles are they lacking, and it is noteworthy that in each case the handle is carelessly made and finished (burials 87, 123, 147).

Ears occur on the handles of ten jars in all (burials 43, 61, 78, 90, 101, 104, 110, 126, 138, and 144) made by pulling out the top corners of the handles slightly. Sometimes they bear circular markings incised with the ends of a small tube which from its evident thinness must have been made of metal. Where these marks are present, the eyes and breasts also have the pupils and nipples indicated in a manner similar to Fig. 8 in Plate XLV (in burials 61, 75, 79, 104, and 131). The hair is indicated on the handles from burials 63 and 69 by a series of

notchings down either edge in the former case, and in the latter, by four vertical lines on either side of the nose. A dress seems to be suggested in three handles from burials 61, 93, and 145. In the first two, there are a number of oblique lines below the breasts (Plate XLV, Fig. 12), and in the last, a number of vertical markings. It is open to question, however, whether these are not rough representations of the mons Veneris, which is again a quite common feature on the handles or bodies of the jars, examples of which are shown in Figs. 6 and 11 of the same plate. If represented on the handle, the triangle is drawn apex upward; if on the body, apex downward. These triangles are generally hatched to represent the hair (at base of handle in burials 52, 65, 67, 70, 138, and 148; body of jar in burials 53, 61, 75, 90, 109, 121, and 150).

Necklaces are also common, and examples may be seen in Figs. 7-8, 12-13 of Plate XLV. They are always roughly drawn, either as a simple line or in a series of scratches intended to represent beads and pendants. Sometimes more than one string is shown, and in rare cases beads are represented by incised circles as in Fig. 8 and in handle 4 of Fig. 13 of Plate XLV (burials 49, 61, 75, 93, 104, 144).

BRAZIERS TYPE B Plates XLIX and L

As was shown by last season's work, it was evidently customary at the period of the "A" cemetery to place a brazier with the handled jar in every burial. Where more than one was found in a burial, as in graves 40, 51, 97, and 120, the second brazier was probably intended for a child whose bones have disappeared. The surmise that these utensils were used for burning a fuel like charcoal or for incense receives strong support from this season's work, though the brazier was more probably used for heating than for any ceremonial purpose. If braziers had been used only in the temples, one would hardly expect to find an example in nearly every grave, as we do, but that they were used in temples as well as in dwelling houses is of course quite probable. It has been suggested to me that braziers would hardly have been required in a warm country like Mesopotamia. But that the winters there were extremely cold has been proved by the winter of 1924-25, during which we experienced seven weeks of frost, the temperature on several occasions falling to thirteen degrees below freezing point.

The brazier was obviously placed in the grave to provide the occupant with a means of warming himself in the next world. That it was not first used for any funeral ceremony seems to be proved by the fact that in more than one case the brazier was used as a pillow (burials 52, 51, and 88). The absence of any trace of charcoal or indeed any sign of burning points to the possibility of these objects having been made especially for funeral equipment. A number of fresh points of interest emerge from this season's work. In the brazier illustrated in Plate XLIX, Fig. 7, the ventilation holes take the form of slits. Fig. 13 of the same plate, the upper part of which is missing, has a long slit on either side of the stem, with a semicircular aperture above it, the latter made by dividing the original slit into two by a narrow band of clay. There is proof that the stems of these braziers were in some cases ornamented. One found last season was roughly scratched all

over, either for decoration or to roughen the surface so as to provide a better hold. Ornamentation, however, went further than this, for in Plate XLV, Fig. 10, a portion of a stem is shown decorated with figures of antelopes. This stem is divided by three vertical slits into three parts, upon each of which an antelope is represented standing in front of a palm-tree. In the photograph, the unbroken edges on either side and broken edges above and below are quite clear. The other two portions were found, but as the design is identical in each case with the one photographed, it is unnecessary to reproduce them. The section illustrated measures 105 mm across, and was found with the other two portions about 80 cm below the surface of the mound (Reg. Nos. 1119, 1113 and 1120; Baghdad, Oxford, and Field, respectively).

Figs. 7-9, 11 and 14 of Plate XLIX represent small braziers which are severely plain in their design and unadorned, except in the case of Fig. 7, which has a wavy line made with a single point around the top of the rim. This line, which can be clearly seen in Figs. 10, 12, 16, 18, etc., owing to the curvature of their rims, is present in all the decorated braziers, and seems to be an integral part of their designs. In nearly every case these braziers belong to child burials. Figs. 9 and 11 were found with braziers 16 and 20 both of which are of the decorated variety. Each of the graves in which they were found contained the body of a female, and though no child's bones were found, they could easily have disappeared owing to the salt in the soil. Fig. 14 was found with other jars in a grave with no vestiges of bones left, and other small braziers not illustrated were found in burials 97, 102, 115, 120, 131, and 132, four of which were those of children. Fig. 15 is of a new type in that the joint between pan and stem, at which so many of the braziers were found to have been broken, is strengthened by three supports of clay arranged at regular intervals (Reg. No. 1815B; Oxford). Fig. 16 is unusual on account of the two roughly notched beadings around the base of its stem. The fine brazier illustrated in Fig. 18 is the largest that has been found at Kish. It is of coarse, light red ware and clumsy make, roughly decorated at the base with slanting lines crossing one another. Its chief feature, however, is the large number of ventilation holes in its stem, two on either side near the base and one on each side just below the pan. In Fig. 21, the pan is of unusual shape, deep and basin-like, with an insignificant, double-notched rim. It was found in a burial which had no traces of bones.

Fig. 1 of Plate L is well proportioned, though somewhat roughly made. The decoration of the base was done with a six-toothed comb, though for clearness of drawing the number of parallel lines so produced had to be reduced to three. Fig. 3 is most elaborately decorated with a five-toothed comb, and there is a deeply notched beading at both the top and base of the stem. In this brazier, the usual zig-zag line around the top of the rim is lacking. Fig. 4 is unusual in having two raised ridges around the base and another near the top of the stem, as in Plate XLIX, Fig. 18. Fig. 5 is also well equipped with ventilation holes, six in all. There is a well-finished beading, heavily notched all the way around the top of the base. Other decorations were done with a four-toothed comb. This is perhaps

for proportion and makes the finest brazier that has been found in the cemetery. Fig. 6 is coarsely made and of little interest, except that the rim of the pan is made up of three bands, which are divided into a series of lozenges by a number of almost vertical lines. This form of ornamentation is rare, and only this one example has been found this year. Three braziers with this type of rim were found last season (see No. 1 of this volume, Plate XII, Figs. 16, 18, and 29).

The double-rimmed variety of pan is almost universal, the upper and lower rims being slightly notched. The braziers found in burials 66 and 67, however, have only the upper edge of the rim thus treated. The decoration of these braziers was in some cases at least started on the wheel, which for this purpose was run slowly. The stem of the brazier from burial 71 is ornamented with a spiral line, made with a six-pronged instrument, which encircles it three times. In Plate L, Fig. 6, a spiral line made with a single point makes nearly four turns round the base of the stem. Illustrations of some of these braziers with other pottery found with them are shown in Plate XLIX, Figs. 7, 8, and 10. It should be observed, however, that the small brazier in the pottery group from burial 75 has been included in the photograph by mistake.

STRAIGHT-SHOULDERED WARE TYPE C Plate LI

This type of jar is the one most often found in the "A" cemetery, and in grave 77 there were no less than seven examples. A jar of this type was used as a pillow in burial 135. Two or more varieties appear in the same grave; for instance, the plain, rimmed specimens such as 2, 3, and 4 of Plate LI are found with jars whose rims are turned over as in Figs. 13 and 14, etc. A new variety of this jar has been found this season, the polished specimens of dark-gray ware discussed above. It is only necessary here to describe those jars which vary from the ordinary type. In Figs. 7, 8, 10, and 11, there is a conspicuous beading at the angle between the shoulder and body, where, as described in No. 1 of this volume, a join is made between two separately made parts of the jar. This beading, of which but few examples were found, is never notched or ornamented in any way. Fig. 10 is ornamented with two bands made with a five-toothed comb, and it is the only specimen thus adorned found this year, but four were found last season. Fig. 11 illustrates the most elaborate jar of this type that has yet been discovered in the cemetery. Its decoration recalls the designs found on the braziers and handled jars. The groups of lines were made with a six- and not three-toothed comb, as illustrated. This jar is exceptionally well made and thin for its size. Fig. 15 is a jar that might have been included in type E, if it were not for its base. The shoulder is ornamented with chevrons scratched roughly with a single point. The ring base was made by pinching the bottom of the jar outward all round, instead of adding a ring in the usual way. Fig. 17 shows a jar which is unique for this type, on account of the pricking at the junction of the neck and shoulder—a feature otherwise found only in the handled ware. The squatness of this jar and of Figs. 12, 14, and 16 should be noted. This apparent degeneration of form cannot, however, be used in dating this pottery, for the squat and more graceful specimens are found in the same graves.

SPOUTED JARS TYPE D Plate LI

During the season 1923-24 but few spouted jars were found in the "A" cemetery. Jars similar in shape to Figs. 19 and 22 of Plate LI occurred in only four burials (81, 87, 96, and 149); two specimens were found in each of the burials 87 and 96. Fig. 18 was found together with a jar of type C, which had a slightly polished surface, at a level of 91 cm below the surface. Fig. 19 evidently belonged to burial 81, but as this grave had been disturbed, the original position of the jar could not be ascertained. Fig. 20, which is of an unusual shape, was found 2.55 m below and close to the N. W. corner of the palace. This may belong to the period of our graves, but from the depth at which it was found (75 cm below the foundations of the palace) I would date it to the palace period or perhaps even earlier. The notching at the junction of shoulder and body is curious, and is perhaps a representation of the stitching in leather work. Fig. 21 is evidently a model spouted jar which from the roughness of its make seems to have been the work of a child. It probably belongs to the period of the burials, but is unlikely to have come from a grave. Fig. 22 was found in burial 96, where it was associated with another spouted jar. The specimen illustrated lay close to the left hand of the body, the other jar being placed just above the top of the head. A jar of type A whose handle lacked the usual feminine features was also found in this grave.

CUP-BASED POTTERY TYPE E Plate LII

This type of jar is fairly common in the burials. As a rule one specimen is found in each grave, but there were three in burial 40, and two specimens in each of burials 63, 88, and 123. One was used as a pillow in burial 125, as was the case in a burial (No. 21) cleared last season. This season we found a considerable variation in the position of this type of jar. They were placed behind the head, in front of the face, behind the pelvis, and in three graves close to the feet. Variations from the somewhat peculiar cup-shaped base from which the type derives its name occurred in the burials cleared last season. Fig. 1 is of the ordinary type and similar to those found last year. Figs. 2-3, buried in the same grave, are unusual on account of their globular form. In Figs. 4-5 the base is very shallow, and almost approaches a ring base in shape, especially in the case of Fig. 5. Fig. 7 is an exceptionally well-made jar of fine proportions, but Fig. 8 is hand-made and closely allied to Figs. 41-44 of type J, except that there are no holes for suspension. Its shoulder has been decorated with crisscross lines made by a fine point. The interesting jar (Fig. 9), which was found in a chamber on the summit of the mound, is fully described in the last chapter. It is clearly of the same type. Two other jars of this incised ware and also of type E are illustrated in Plate XIV, Figs. 6-7, in No. 1 of this volume; the striking similarity between Fig. 6 and the jar illustrated here should be noted. For the reason given last season I am still of the opinion that this ware, despite its infrequent occurrence, was made in Babylonia and not imported.

BOWLS TYPE F Plate LII

The simple bowls illustrated in the plate were not often included in burial equipment. Two were found in grave 43, and one each in graves 57, 95, 96, 118, and 136. They usually have a round or semi-rounded base, but a bowl with a flat base which shows signs of heavy scoring was found in grave 136 (Plate LII, Fig. 13). Fig. 16 also has a flat base, but it was not actually found in a grave. This ware is always light red in color, thick and heavy, which suggests that these bowls were used as food vessels or for cooking. The bases of Figs. 11, 15, and 17 are so made as to prevent their rolling beyond a certain distance.

PANS TYPE G Plate LII

No example of this type has been found in a grave, as mentioned above; but all the examples illustrated obviously belong to the grave period, for the reasons set forth in the preceding chapter. Fig. 19 is well made, though somewhat thick for its size, but Figs. 18 and 20 are hand-made, of very rough ware, and are thick and imperfectly baked. Fig. 21 is a deep bowl of very rough pottery. Its base is very concave on the outside, and has a very rough hole in the centre, so that it is difficult to understand what was the exact use of the utensil. Fig. 22 is hand-made, with thick sides and a very thin base. There are three small upward projections at equal intervals on its rim. Fig. 23 is a hand-made bowl of very rough workmanship, with six irregularly placed depressions in its base. Fig. 24 is a bowl of roughly-made pottery which has the remains of four projections inclined inward from the rim (Reg. No. 1918; Field). Fig. 25 (see also Plate XLIV No. 12, Fig. 1) shows a round dish of thick pottery with three curious handles, which are turned over inward and attached to the base of the vessel. Each handle is narrowed and flattened on the inside of the turn-over, and it is possible that they served as supports for some vessel placed upon them (Reg. No. 2000; Baghdad). Fig. 26 is also hand-made and poorly baked. In form it somewhat resembles Fig. 25, for it also has handles that turn inward; but in this case, the inner ends of the handles are attached to the rim of a circular compartment in the centre of the dish, instead of being continued right down to its floor. Three holes in the base of the partition wall allow for the circulation of air or fluids between the inner compartment and outer circle of the dish. Nothing quite like this extraordinary piece of pottery has been found elsewhere, and it is difficult to conceive the purpose for which it is made. I am inclined to think that it served the purpose of a stove, to boil water or cook food in a vessel resting on the three supports. The fuel would, of course, have been charcoal or dried dung. In the less elaborate forms (Figs. 22 and 24) the smaller projections of the rim served the same purpose as the larger supports in Figs. 25 and 26, thereby leaving a larger surface for the fuel.

BEAKERS TYPE H Plate LII

This type of pottery has been found more frequently this season. Twelve burials in all contained either one or two specimens each. As these beakers do not vary much in shape, only two illustrations are given (Figs. 27 and 28). They are

always wheel-made and exceptionally well-baked. No particular position was allotted to them in the burial (see Plate XLIV, Fig. 8, for a burial group in which they occur).

JARS WITH HOLES FOR SUSPENSION TYPE J Plate LII

This type of jar has occurred in so many varieties, that it has been found advisable to distinguish two sub-types by adding the letters A and B to the original type letter J. Jars of the original type were found in considerable numbers in the mound, though but few of them occurred in the burials. They are nearly always hand-made and of rough and ready workmanship. Fig. 36 is small and barrel-shaped with a rounded base, and at either side of the rim a rough lug is attached with two small vertical holes bored through to take a loop of cord. Fig. 40 is exceptional in being wheel-made. In the rim there are four vertical holes, two at either side, to take a cord. Fig. 45 is of red ware and hand-made, and the two holes at either side of the rim are bored in an oblique direction. The body of this jar is ornamented with three circular bands made with a four-toothed instrument. Fig. 46 is a simple round-based bowl of red ware. At either side of the rim there is a projection about 40 mm long, through which two holes are bored vertically.

CUCUMBER-SHAPED JARS TYPE JA Plate LII

Figs. 29, 30, and 31 are evidently models of some sort of vegetable, perhaps a cucumber or gourd. They are provided with holes for suspension, are hand-made and substantial for their size. They bear no indications of the nature of their original contents. Fig. 29 has a small hole on either side of its rim, but in Figs. 30 and 31 there is a lug pierced with one hole in the former and two in the latter case. None of these examples was actually found in the graves, but they evidently belong to that period (Reg. No. 2146A; Oxford. 2485; Field. 2074; Field).

DOUBLE-MOUTHED JARS TYPE JB Plate LII

This type of pottery is rare. Again none of them actually come from graves, though there is no doubt that they belong to that period. They are all hand-made and slightly oval in shape. The original mouth has been pinched together in the middle to form two apertures instead of one. A hole is bored through the flattened area between the two mouths to take a cord. A similar specimen, it will be recalled, was found last year (Reg. 2347C; Baghdad. 2601; Field. 2593; Oxford).

FLAT-BASED CUPS TYPE K Plate LIII

This type of jar is very frequently found in the burials, two or three specimens often occurring together. They are always wheel-made and show conspicuous grooving on the bases, proving that they were made on a slow wheel. Their usual situation in the graves was in front of the face; indeed, it sometimes appears as if the hand of the dead person were clasping one. In some cases they are so roughly made that they appear like hand work, despite the fact that the concentric grooves on the bases prove that they were made on the wheel.

LIPPED FLAT-BASED POTTERY TYPE KA Plate LIII

This pottery differs only from type K in having a portion of the rim pulled outward to form a lip. Jars of this type were very frequently found close to and in front of the face of the dead.

ROUND- AND POINTED-BASED POTTERY TYPE L Plate LIII

It will be seen from the numerous illustrations that this type of pottery shows a remarkable divergence of form. It is seldom decorated, but examples do occur, as shown by Figs. 29, 53, and 57. Fig. 29 was scored on the wheel with a single point, and the lines on Fig. 53 are also spiral, making fifteen turns around the shoulder of the jar. Fig. 57 was scored at intervals with a six-toothed comb, though for clearness' sake a smaller number of scratches is shown. It is thickly made. Most unfortunately the neck was missing, for the shape is otherwise quite new. No especial place in the burials was reserved to this type of pottery. It is always wheel-made, and the base is not so well finished as the upper portion of the jar. It would seem that after the neck and shoulder of the jar were finished, it was reversed on the wheel in order to complete the rounded base; or it is not impossible that the base was made first and that the lump of clay was then placed on a ring-stand for the upper portion to be completed.

CUPS WITH HOLED BASES TYPE M Plate LIV

This variety of jar is rare. Two examples were found in each of burials 43, 87, and 152, and three in burial 106. The distinguishing feature of the type is the presence of a small hole, which was bored with a stick at the edge of the rounded base. In two examples, however, this hole is in the centre of the base. These jars were perhaps used as strainers of some kind; but holes, which average 9 mm in diameter, would allow fairly large bodies to pass through unless some filtering material were used. With a piece of linen over the hole, these utensils may have served to run off the whey from sour milk. They were found in various parts of a grave, though the specimen in burial 87 was given the place of honor, in front of the face. Fig. 6 is unusually large for this type of jar. It was found with Fig. 1 and a group of other pottery behind the head of a burial. Out of eight graves which contained this type of jar, four were female burials, three were male burials, and one was that of a child. There is therefore no reason to think that this type of jar was used by any one sex. The clay of which these vessels are made resembles that of the other pottery, and all are of a light red color.

NARROW-MOUTHED POTTERY TYPE N Plate LIV

This is an uncommon type of jar which occurred in two graves this season (136 and 148). In the former it was found with other pottery near the feet, and in the latter, as no bones remained, its position with relation to the body is not known. The ware is peculiar in that the paste of which all the examples were made is dark red in color and very close in texture, with a total absence of the fine

fissures present in all other pottery. The surface is in every case well preserved, showing a slight polish, which from the lines upon it must have been done either with a pebble or a large piece of rounded bone. Some of the jars are covered with a red haematite slip in addition to being polished. The type is an interesting one, both for general shape and for the unusually narrow mouth.

SIMPLE DISHES TYPE O Plate LIV

These dishes are very common in the "A" cemetery, the number in each grave ranging from one to four. As examples were found in even the poorest graves, which shows that they were used by rich and poor alike, it is likely that they served as drinking cups. A dish of this type is often found lying with a jar of type K close to the hands and in front of the face of the dead, but it also occurs in other parts of the grave, as, for instance, near the feet. This ware is always wheel-made, though very roughly finished, and the base invariably shows very heavy concentric scoring.

RIBBED POTTERY TYPE P Plate LIV

No examples of this kind of ware were found in the graves cleared in the season 1923-24, but fortunately four examples were obtained this season from graves 62, 87, and 106, of which the last contained two. The remaining specimens illustrated come from the debris of the mound, and were probably washed or thrown out of the burials. The jar that was found in grave 87 is also illustrated as 3 in Fig. 11 of Plate XLIV. The position in which this type of pottery was placed could be ascertained only in this burial (87), where it lay near the feet. It will be observed that pottery of this type was made with either a flat, a round, or a ring base. In Fig. 24 a small hole was made with a stick before the jar was baked, and in this feature the jar resembles type M. An exactly similar specimen of ribbed ware with a round base was found at Fara.[36]

POTTERY TYPE Q Plates XLIV and LIV

It is difficult to give a name to this very extraordinary type of pottery, examples of which were unknown until two specimens each were found in graves 87, 106, and 147. Three of these jars are shown in Plate LIV, Figs. 29-31, and two in Plate XLIV, Figs. 11 and 8 (Reg. Nos. 2242E; Field. 2242Q; Oxford. 2702F; Oxford. 2754A; Baghdad). Jars of this type are of flower-pot shape, but with a heavy ring base, and in each a portion of the base has been pulled outward to form a lip, so that when the jar is inverted, its base forms a very shallow cup with a spout. In one of the specimens from grave 87, the ring has been slightly dented inward in two places, as if something had been rested on it before the jar was baked. This can be clearly seen in jar 8 of Plate XLIV, Fig. 11. All this ware is thick, heavy, and wheel-made. The baking is fair, and the color light red. It is quite evident that this type of pottery was used with the apparent base upward, but what that purpose was is difficult to decide. As two specimens were found in each of the three graves in which they occurred, they were perhaps used in pairs.

The position in which these jars were found in the graves does not help to explain their purpose, for two in one grave were placed close to and in front of the knees of the dead, and in another grave they were placed in a group of pottery behind the body.

PERFORATED DISHES TYPE R Plate LIV

Perforated dishes or strainers were found in burials 87, 88, 102, and 106, two of which are illustrated in Figs. 34 and 36 of the plate. Fig. 34 is of fairly thick pottery of a pale yellow color. In the round base there are six small holes, two alone of which could be shown in the section drawing. Fig. 36, though of thick ware, is well made and provided with a number of small holes that extend more than half way up the vessel. This was found placed, for safety, in one of the larger pieces of pottery in burial 88 (Reg. Nos. 2242H; Field. 2252L; Oxford). The example from burial 102 is dish-shaped, and the small holes are confined to the area within the ring base (Reg. No. 2423). The strainer from grave 106 has a small flat base with a number of regularly placed holes which average 3 mm in diameter (Reg. No. 2391T; Oxford). The small strainer (Fig. 33) somewhat resembles the rose on a modern hose-pipe. It is bottle-shaped in form, with a large hole in the base and a series of very small holes irregularly placed around the sides. Unfortunately, the neck of the vessel is missing, but judging from what remains it must have been very small. The article is thick for its size, well made, and the clay of which it is composed is light red in color. It was found about a metre below the surface of the ground and evidently belongs to the period of the graves (Reg. No. 2359B; Oxford).

PERFORATED CYLINDERS TYPE RA Plates XLIV and LIV

These curious cylinders were found only in three burials (87, 106, and 147), one example in each. They are somewhat thick for their size, hand-made, and perforated with a number of small holes somewhat irregularly placed in perpendicular rows. Two of these cylinders are shown in Figs. 37-38 of Plate LIV and also in Figs. 6-7 of Plate XLIV, No. 11. Their use is somewhat obscure, but I would suggest that they were filled with charcoal and placed in the pans of the braziers. This would give considerably more heating surface than the brazier would provide alone (Reg. Nos. 2702M; Oxford. 2242D; Oxford. 2402A; Field).

UNUSUAL SHAPES TYPE S Plates XLIV and LIV

All the pottery of which only one or two examples have been found is grouped together in this section. It is hoped that it will be possible to split them up into separate types when further specimens have been found. All the examples illustrated come from mound "A," and there is no reason to think that those that were not found in actual burials were otherwise than of the grave period. These specimens were in all probability either thrown or washed out of the burials that had been disturbed, or they belonged to small houses of the same period which have disappeared.

Figs. 39-42 of Plate LIV are simple cups of well-baked clay, one of which was found in each of burials 84 and 87. They are all wheel-made and very similar to type H, except that they are more elongated and that three out of the four of them have flat bases (Reg. Nos. 2371B; Field. 2221B; Field. 2702L; Baghdad).

Figs. 43-44 are hand-made. Each has a flat base and the rim compressed at one end to form a handle, which has a hole through it. The rectangular form of Fig. 44 was effected by squeezing out the corners (Reg. Nos. 2594C; Oxford. 2551; Field). Fig. 50 is unusual in being oval in section with a very immature and unstable base. It is made of a fairly thin, red ware with a polished surface. It is most unfortunate that the upper part of this flask could not be found (Reg. No. 2802). Fig. 51 is another hand-made dish, which is especially valuable because it was found with other pottery in grave 123. This specimen is also illustrated in Fig. 11 of Plate XLIV. The length of this interesting piece is 130 millimetres. It is plain on the inside, but the outside is roughly ornamented with perpendicular strips of clay, one on either side of each corner, one at the centre of each end, and in three groups of two on either side. The base is flat. In each side and end there is a hole about half way down, arranged so that there are two holes at one corner and two at the corner diagonally opposite. The purpose of these holes is difficult to understand as they are too far down to serve as holes for suspension (Reg. No. 2583; Oxford). Fig. 54 is of yellow paste, thick and heavy for its size, with a rough undulating neck. The base is flat and shows signs of scoring, otherwise this jar would be regarded as being of later date. It is decorated with a spiral line around the shoulder (Reg. No. 1557; Field). Fig. 55 is a most interesting jar. It is wheel-made, with a deep projecting beading at the junction of the neck and shoulder (see also Plate XLIV, Fig. 12). The paste of which it is made is very coarse and sandy, and contains a large amount of foreign matter. It is light red in color, and has been thinly coated with a cream-colored slip. This jar strongly resembles in both form and make the vessels which are used at the present day to collect the water dripping from the pointed base of a very large water-jar. It was found lying in front of the face of one of the two bodies in grave 56 (Reg. No. 1964M; Field).

Figs. 45 and 52 are simple, hand-made jars of model size and of the roughest make. Fig. 46 is of light yellow ware and roughly finished. It has a small neck and mouth with a fine slit only as the orifice. Figs. 47-49 are a series of small pottery dishes of a type which turns up now and again in "A" mound, though one has not as yet been found in a grave. They are always wheel-made and well-shaped, and I am inclined to think that they are really covers for small jars, for which purpose they are certainly well adapted. Fig. 53 is a small jar with a pointed base and wide mouth. It was found outside the wall to the west of the palace, at a depth of 2 m below the surface. Fig. 56 comes from burial 88, where it was found behind the pelvis of the body. It is well-made and light red in color (Reg. No. 2252A; Baghdad). The shape of Fig. 57 suggests that it was originally made in metal. This jar was found just behind the head in grave 51. It is very hard-baked, and has a straw-colored surface which may be a slip. This interesting jar is also shown in Fig. 5 of Plate XLIV, No. 11 (Reg. No. 1891B; Field).

A specimen similar to this one has been found at Tell el-Obeid by Woolley. Figs. 60-64 are all hand-made pottery. The base of Fig. 61 has been pinched to form four small feet. Fig. 58 is a small jar of most unusual form. It has a neat, thin ring base, below which the bottom of the jar projects slightly so that it is not very stable. The long heavy neck which dominates the body is most curious. This jar was found in one of the small rooms on the summit of the mound, and is therefore almost certainly of the grave period (Reg. No. 2089C; Baghdad). Fig. 59 is a large asymmetrical jar of very heavy make, especially at the base. It would have been considered as a late type, if it had not been found as low down as 2 m below the surface of the ground. A small flat base is not generally associated with jars of this kind.

TOOLS AND WEAPONS

A considerable number of fine copper tools and weapons were found this season in the burials of the "A" mound, comprising battle axes, adze axes, daggers, and knives; and many examples of the curved copper blades similar to those found during the season 1923-24. In the majority of cases the preservation was good, especially among the more substantial specimens from which in some cases the patina can be readily chipped, leaving the surface of the copper beneath almost intact. The majority of the tools and weapons were first cut from sheet copper and then fashioned by hammering, which besides shaping the implement also had the effect of toughening the metal. Only the larger weapons, such as the three battle axes illustrated in Plate XXXIX, No. 7, were cast. These show exceptional skill in the art of casting, and their surfaces are surprisingly clean, making due allowance for the patina that covers them.

In many of the graves, model weapons were placed with the dead. These were either very small, or they were exact copies in size and every respect of the real weapons, except that they were made in very thin metal, in some cases a millimetre thick. These weapons were, of course, useless in actual warfare, but amply served the purpose of burial with the dead. The same type of battle axe and adze-shaped axe as pictured in Plate XXXIX, Nos. 7 and 9, has also been found in Elam. At Tepeh Musyan, about 150 km west of Sisa, Gautier and Lampre found a battle axe and adze blade of exactly the same type as those in the "A" cemetery and also double-pointed arrow-heads similar to those found in the mound. Apart from other evidence discussed below, these three objects and especially the first prove an undoubted connection with Elam.[37]

Little can be said as yet about the exact composition of the copper recovered from the burials submitted to the Special Committee of the British Association, which is working on this subject. The results are not published. This report, as far as it concerns the tools and weapons of the "A" cemetery, will be included in a succeeding publication. All the weapons of offence have cutting edges, which suggests that they were intended to be used against thick clothing or light armor, such as leather jerkins and head-pieces. That helmets were worn by soldiers in the period of the "A" cemetery is proved by their being worn by the spear-men of Eannatum II in the Stele of the Vultures, where they were the shape of a close-fitting cap terminated by a blunt point at the top. Such a cap as this might be of leather or even of thin copper.[38]

Every weapon or tool found in the cemetery or elsewhere at Kish has a double slope to its edge, even including the chisels. This is always the case with primitive tools, the single slope not appearing until late times either in Babylonia or in Egypt. An interesting feature of the smaller tools and weapons, such as spear-heads, arrow-heads, nails, etc., is the presence of a doubled-sloped chisel-

point at the end of their shanks. This facilitated their being inserted in a wooden shaft without splitting it, and would suggest that reeds were not used for arrow-shafts nor bamboos for spears, as anything with a hollow interior would not require an edge on the head of the weapon.[39] It is not yet certain whether the copper sheets from which most of the objects were cut were cast in sheet form. The fact that most of the smaller objects seem to have been beaten out of square or rectangular rods of copper would imply that the metal was hammered into this form before sale or for convenience in working. This squaring, however, seems in most cases too good to have been done with a hammer, and its extreme regularity suggests casting.

In connection with these weapons with cutting edges it is noteworthy that not a single example of a mace-head was found in the graves, though specimens were found in the palace beneath. It would seem that this type of weapon had already passed out of use, except for ceremonial purposes, and the fact that one was placed in the hands of the god Ningirsu in the above mentioned Stele may probably be put down to conservatism. A mace-head would be practically useless against the thick head-pieces worn by some of the soldiers of Eannatum.[40]

BATTLE AXES Plates XXXIX and LXII

Battle axes fall naturally into two classes—those which are socketed, as Figs. 1-4 of Plate LXII and those which are adze-shaped, as Figs. 12-13, 18-20 of Plate LXI. A socketed battle axe was found in graves 74, 80, 104, 107, 128, and 135, and others which obviously come from graves were found in the mound. The finest examples are illustrated in Plates XXXIX, No. 7 and LXII, Figs. 2 and 4. Unfortunately, two of the graves in which battle axes occurred had been disturbed anciently, so the position of only four could be determined. In graves 107 and 135 the axe was placed a short distance from the front of the face, and in burial 80 it was close to the top of the head. In grave 104 the weapon lay just behind the pelvis, which suggests that it was carried in the belt, as are the knobkerries of the natives of the present day. The axe shown in Plates XXXIX, No. 7, and LXII, Fig. 1, is of cast copper, and is 106 mm long. It was found at a depth of a metre below the surface of the ground, and evidently once was part of the equipment of a burial (Reg. No. 2034; Baghdad). The similar axe (the lower one in No. 7) comes from burial 104. It is 142 mm long, and the thickness of the blade at the centre is 7.50 millimetres. It is also of cast copper, and is in such excellent condition that the patina could readily be scaled off (Reg. No. 2448; Oxford).[41]

The third battle axe (the middle one in No. 7) is of a different type. It is 133 mm long, and has a curved cutting edge at the end, which is 37 mm wide. Behind this, the blade narrows and widens out again slightly at the haft. This latter is formed by bending the end over to form a socket, which is strengthened by turning over the sides to hold the tongue in place (see also Plate LXII, Fig. 3, Reg. No. 2342; Oxford). The axe found in grave 74 is made of very thin sheet copper. Its haft is formed by rolling over the end farthest from the cutting edge to form a socket for the handle. The blade is of the same shape as Fig. 1 of Plate

LXII (Reg. No. 2034). Fig. 4 of Plate LXII has a strong heavy blade evidently intended for active use. Its length is 92 millimetres. Though it is of cast copper, there is only a suggestion at the back of the socket of the rib usually associated with cast specimens. It was found in burial 135 (Reg. No. 2712; Oxford. Plate XLIII, No. 11). The three battle axes found in burials 80, 107, and 128 are of a type similar to Fig. 2 of Plate LXII. They are made of very thin copper, and probably were used merely for funerary purposes. That from burial 107 was unfortunately broken by a man's pick, and all the pieces could not be found. Traces of wood were found in the socket of the axe taken from burial 128 (Reg. Nos. 2191; Oxford. 2397; Field. 2647; Field).

From the presence of the rib at the back of the sockets of the cast battle axes it would seem that their form was derived from earlier objects made of sheet metal. Indeed, this rib is generally present on the model weapons found both last year and this. It seems to have originated in the endeavor to accommodate an overlarge socket to the wooden handle by squeezing the back of the socket together. Besides providing a tighter fit, the rib also had the effect of considerably stiffening the back of the socket. Its use was therefore carried on when these objects were made of cast, instead of sheet, metal. It seems probable that besides being fixed in the sockets, the handles were also lashed to the blades. The narrowing of the blade toward the socket certainly suggests this, as otherwise its narrowing would merely be a source of weakness. The socketed battle axe was unknown in Egypt in early times. It appears to have been introduced into that country from Syria,[42] which probably borrowed it from Babylonia.

ADZE-SHAPED BATTLE AXES

Plates XXXIX, No. 9 and LXI, Figs. 5, 7, 12, 18-19, 20

This type of axe was found in burials 66, 78, 79, 92, 93, 98, 105, 113, and 131. In three graves the axe was close to the head; in one, close to and in front of the shoulders; in four close to the pelvis, and in the remaining grave, its position could not be determined owing to the burial having been disturbed. It will probably be argued by some that these objects were not used as battle axes at all, but that they are adze blades. This is, of course, possible in the case of the smaller and rougher specimens, but I am inclined to regard these as battle axes which were made especially for burial equipment. The fine weapons illustrated in Figs. 2-3 of Plate XXXIX, No. 9, and in Plate LXI, Figs. 18-19, could hardly have been used for any other purpose than that of warfare. These weapons were probably firmly lashed in a cleft stick, and they would no doubt have made very effective weapons of offence and defence.

Fig. 5 of Plate LXI comes from burial 78, and is 123 mm long with the cutting edge at the wider end. Fig. 7 was found in grave 92. It is a very heavy blade, flattened and widened at its cutting edge. As its upper ends show traces of burring, it is possible that this might be a metal chisel (Reg. Nos. 2182; Baghdad. 2292; Baghdad). Fig. 18 is long and narrow, and has been hammered out at the end to form an edge. On one side of the weapon the imprint remains in the

patina of a woven linen (?) material (Reg. No. 2303; Field). The fine specimen illustrated in Fig. 19, unfortunately, did not come from an actual grave. It is 192 mm long, and the breadth of the cutting edge is 41 millimetres. A reproduction after a photograph of this is also given in Plate XXXIX, No. 9 (the middle weapon, Fig. 3, Reg. No. 2151; Field). Fig. 20, from burial 105, is 2 mm thick, and has an edge 39 mm wide. It was found together with Fig. 13 of the same plate. The latter, however, is only 63 mm long, and would seem to be a model (Reg. No. 2373; Oxford. 2376; Baghdad). Fig. 12 is made from thin sheet copper, and for this reason was also, in all probability, especially made for burial (Reg. No. 2181; Baghdad).

Figs. 21-23, two of which come from graves, are all of the thin sheet metal type. The first has a hole at the top which suggests that it once was riveted. Fig. 22 has been inserted in this plate by mistake, and should have been included with Figs. 8 and 9 of Plate LXII (Reg. No. 2349; Field. 2040; Oxford. 2322; Field). The fine blade (Fig. 1 in Plate XXXIX, No. 9) is oval in section. It is 228 mm long, 46 mm wide at the cutting edge, and 10 mm thick at the centre. The top of the weapon is almost pointed, then widens out gradually to the cutting edge which is curved. Whatever may be said as to the other adze-shaped weapons, this battle axe could never have been used as an adze owing to its oval section. This weapon was evidently a casting, and though somewhat corroded in parts, it shows smooth and perfectly finished faces. It was found only 30 mm below the surface of the ground, and no objects with which it could be associated were found in its vicinity. None the less it is obviously of the same period as the graves from one of which it may have been taken anciently (Reg. No. 2470; Baghdad). This type of weapon with both straight and rounded tops is to be found in most parts of the ancient world from very early to comparatively late times. The pointed top is apparently first met with in Egypt in the XXVIth dynasty.[43]

CELTS

Though no stone celts were found in the graves of the cemetery, a number occurred in the mound. They are described in the last chapter. As they were all unearthed at no great depth beneath the surface, these celts do not seem to have belonged to the period of the palace. They were probably the weapons of the people of the period of the cemetery.

STONE MACE-HEADS

No mace-heads were found in the graves, and this form of weapon seems to have been confined to the period of the palace. For the description of mace-heads found in the mound, see last chapter.

CURVED BLADES Plates XXXIX, No. 6 and LXI, Figs. 2-4, 10-11

The purpose of these curious blade-like objects is still uncertain, although owing to the number obtained from this season's work considerably more infor-

mation about them is available now. A pair of these curved blades occurred in each of burials 80, 87, 92, 93, 104, 105, 107, and 128, except in 92, where only one was found. As this last was an undisturbed burial, the conclusion is justifiable that only one blade was placed with the dead man. The fact (with the one solitary exception) that it is always *two* blades that are found with the dead naturally suggests that a pair was used for some purpose—a supposition borne out by the facts that the two are always alike in size and shape, and, moreover, are generally found adhering to one another. They are always of thin copper, and vary in thickness from just over 1.50 mm to 3 millimetres. In shape they vary slightly in the different graves, as will be seen in Plate XXXIX, No. 6. The curved sickle-shaped type at the top of the illustration is the most frequently found (burials 80, 87, 92, 93, 104-105. Reg. No. 2192; Oxford). An almost straight type occurred in grave 128 (Reg. No. 2637; Baghdad). The blades found in burial 107 show a marked double curve (Reg. No. 2398; Oxford).

In the Stele of the Vultures a blade or sceptre, of the type of the lower one in No. 6, is carried in the right hand of the king riding in his chariot. It appears to be in three pieces, all of about the same thickness, lashed together at intervals.[44] In the register above this scene, the king is again shown carrying one of these blades of the straighter type, but of this, unfortunately, part is broken away. An implement of very much the same shape and form is also wielded by a man in an interesting scene carved on a piece of shell now in the Louvre.[45] Similar objects occur on archaic cylinder seals, where their bearers seem to be using them in the pursuit of antelopes and other game. It would seem, therefore, that these curved blades represent an instrument either of warfare or the chase, or of both.[46]

In the examples taken from the graves of the "A" cemetery, a definite handle is always provided at one end. Though it is in most cases too small properly to accommodate the hand, yet it would serve as hold for a cord. The question arises as to the kind of material placed between these two copper blades; that something lay between them is suggested by the three layers of the sceptre-like object carried by Eannatum and also by the fact that in one of the blades recovered from the burials at "A" a copper rivet still remains projecting 7 mm above the blade.[47] In all probability, wood was the material placed between the blades and secured firmly to the metal facing on either side of it by lashings or, in some cases, by rivets. Early in the season we realized the possibility of wood being at one time present between these blades, but we have as yet found no trace of this or any other material. This, however, is not surprising, for wood has a very short life indeed when lying any distance below the damp Mesopotamian soil. It seems in some soils to disappear entirely without leaving any trace behind. It has been suggested in some quarters that the implement carried by Eannatum is a throwing stick. If so, the objects found in the burials served the same purpose. I do not, however, think that a valuable metal like copper would be used for this purpose, even though it could perhaps be recovered. The club-like objects made with these curved blades were more probably used for striking purposes; and, if so, would be the prototype of the scimitar, which they somewhat resemble in form.[48]

The position of these objects in the graves varies somewhat. In burials 92, 93, and 107 they are found close to the pelvis; in graves 87 and 104 just above the head; and behind the shoulders in graves 80 and 105. In burial 128, which was disturbed, there were no traces of bones, and the position of the copper blades could not therefore be determined. The exact size of these blades can be ascertained from the line drawings in Plate LXI; those not illustrated vary but little from those that are (Reg. Nos. 2313; Field. 2246; Field. 2192; Oxford).

DAGGERS Plates XXXIX, No. 8 and LXII, Figs. 15-20, etc.

Copper daggers were found in burials 40, 47, 57, 69, 74, 78, 79, 88, 92, 93, 104, 107, 128, 131, 135, and 136. Taking only those burials, eight in number, which were undisturbed, the dagger was found sufficiently close to the pelvis to warrant the assumption that it was worn in the belt or girdle. Of the two daggers in burial 104, one was placed in front and the other behind the neck. The three finest daggers are illustrated in Plate XXXIX, No. 8. The first of these comes from burial 107. It is 263 mm long, including the tang, and its thickness in the middle, down which two fine lines are incised, is 3 millimetres. The short tang has three rivets, one above and two below, to which traces of wood were found adhering, which must have formed part of a handle about 19 mm thick. Traces of a leather scabbard also were found on the blade (Reg. No. 2396; Baghdad).

The second dagger (Reg. No. 2730; Field) is of fine make, but the blade is sadly corroded. Its exact length could not be determined with absolute certainty, for it was broken across in several places, but it can be gauged by the fact that it is 43.50 mm wide in the widest part. The hilt is made of ivory and was found broken into many pieces. The base of the hilt is decorated on both sides with a thin gold band, one edge of which is turned under the handle and concealed between it and the blade. The handle is riveted to the short tang of the blade by three copper rivets, whose heads are sunk to allow of the insertion of three small gold studs on either side. Only one of these now remains, and it is clearly visible in the reproduction. The handle is unusually long for this type of weapon, being 98 mm in length. This dagger was found in burial 104 together with another, which is illustrated in Plates XXXIX, No. 5 and LXII, Fig. 15. This latter weapon (Reg. No. 2438; Field) is of unusual size, being 27.30 cm long and 3.50 mm thick. The handle, which was probably of wood, was attached to the blade by means of four rivets, of which portions remain in three of the holes. The third dagger in Plate XXXIX, No. 8, comes from burial 47 (see also Plate LXII, Fig. 16). A semilunar stop projects slightly beyond the edges of the blade, and behind it there is a hollow, rounded copper hilt about 45 cm in length. A wooden handle was probably once inserted into this hollow hilt (there are still traces of wood in the top of the hilt, which is secured to the blade by three rivets); for, as it stands, the hilt seems too short to have been of much use in holding the dagger. The total length of the dagger and hilt is 220 cm (Reg. No. 1839; Oxford).

Fig. 17 of Plate LXII has a fine, thick blade with three rivets for a handle. Two fine lines are incised down the centre of the blade on either side (also illus-

trated in Plate XLIII, No. 11). It was found in burial 135 (Reg. No. 2708; Oxford). Fig. 18 from burial 40 is also a substantial blade, being 3.50 mm thick in the middle. It has likewise two incised lines down the centre of the blade about 1 mm apart, but they are partly obliterated by corrosion (Reg. No. 1577; Baghdad). Fig. 19 was cut from a heavy piece of copper sheeting. Along the edge of one side of the blade there is a distinct pattern, the result of the impress in the patina of what must have been an ornamental sheath, which was probably of tooled leather work. This pattern cannot be seen anywhere else on the blade. For this impression to have been made, the dagger must have been withdrawn from and laid on its sheath when placed in the grave. The inside of the sheath would hardly have been decorated unless it was made of embroidered fabric—a possibility which must not be overlooked. This weapon was found in burial 74 (Reg. No. 2138; Field).

Fig. 20 is also of sheet copper, and must have been made expressly for burial equipment. Its extreme thinness would hardly warrant its actually being used as a dagger. It was one of the objects found in burial 57. Fig. 22 was cleared from burial 131. It has a short tang with two rivet holes side by side. It is made of thin sheet copper, and is useless as a weapon (Reg. No. 2675; Field). Fig. 23 is a more substantial dagger, but unfortunately its upper portion is missing. It was found at a depth of 3 m below the surface of the ground, not in a burial (Reg. No. 2155; Field).

None of the daggers found up to the present in the graves of the "A" cemetery appears to have been cast. They are cut out of sheet metal, and then hammered from the centres toward the edges, leaving an extra amount of metal down their centres for stiffening purposes. The thickness of metal in the centre of the daggers, however, never exceeds 3.50 millimetres. This hammering into shape had the advantage of tempering the metal and making it springy. It also served to close the pores of the metal, with the result that these daggers have survived to the present day despite a damp and salty environment. Beyond this thickening in the middle there are no signs of a definite mid-rib, though that such was known is proved by the example found last year in burial 28, which has a conspicuous mid-rib. These daggers from the "A" cemetery appear to belong to the period when the mid-rib was coming in, and it is possible that this feature was first suggested by the fine double lines engraved on the daggers in Plates XXXIX, No. 8 and LXII, Figs. 17-18. As well as being secured by rivets, these daggers are cemented into their handles. Traces of the cement, which seems to have been bitumen, are present on most of the tangs. Such a cement was necessary to prevent shake, which even the presence of three rivets would not obviate.

KNIVES Plate LXII, Figs. 6, 10, 11, 21

In some cases it is a difficult matter to distinguish between a dagger and a knife, as weapons of both classes have double cutting edges. Those, however, which have long tangs showing no signs of rivet holes, may have been employed as knives rather than daggers. Small blades such as 6 and 21 could hardly have

been used for offensive purposes. Only five examples of knives were found this season, in graves 65, 71, 78, 92, and 136. The specimen from burial 65 is illustrated in Plate LXII, Fig. 11. It is 154 cm long, 1.35 cm wide, and its blade was beaten out of a piece of copper wire rectangular in section, part of which unaltered served as a tang (Reg. No. 2020; Field). Figs. 6 and 21 and a knife from burial 136 are all small and made of very thin sheet copper (Reg. Nos. 2111; Baghdad. 2170; Baghdad. 2726; Baghdad). Fig. 5 has been included among the knives of the "A" cemetery, though it is of a most unusual shape. It appears to have been either washed or thrown out of a grave. It may possibly have been employed for leather work, for which it seems adapted. The handle is 11 cm long and 5 mm thick, and is rectangular in section. The blade is triangular in form, probably with a cutting edge on either side. This tool was found in some small rooms on the summit of the mound (walling "Q" of the palace), which belongs to the period of the graves.

SPEAR-HEADS Plates XXXIX, No. 1 and LXI, Figs. 1, 16-17

Only one burial (105) contained a spear-head, though two others were found which must originally have belonged to burials. The spear-head from the burial (Plate LXI, Fig. 17) is of small size, being only 16.50 cm long and 3 mm thick in the middle of the blade. It is, however, a serviceable weapon. Its tang is square in section, and tapers gradually to a chisel point, which was probably made to allow of the easy insertion of the tang into the shaft (see also Plate XXXIX, No. 1. Reg. No. 2372; Field). Fig. 16 of Plate LXI is much larger. It was found near the surface on the western side of the mound, and though somewhat corroded, it can be readily cleaned. It measures in all 29.20 cm in length. The tang is hexagonal in section and of large diameter in proportion to the blade. A slight thickening down the middle of the blade seems to be carried onto the tang for a short distance. It is difficult to see how a tang of this diameter could have been inserted in an ordinary spear-shaft, as the wood would need to be very thick to hold it. The shaft, indeed, must have been quite a thick pole, and very similar in appearance to the heavy shafts carried by the spear-men of Eannatum in the Stele of the Vultures (Reg. No. 1814; Baghdad). Fig. 1 (also shown in Plate XXXIX, No. 1) is a spear-head of very light make, which may have been used for throwing. The blade is narrow, and the circular tang widens slightly near the end to form a stop beyond which the tang is square in section and narrows to a chisel-point. This specimen was found at a depth of 1 m on the north of the mound (Reg. No. 2731; Oxford). The three spear-heads are of the simplest make and are hammered into shape from pieces of copper rod which quite possibly were made by casting. The solid tang of the largest specimen can in a way be paralleled by the large Tello spear, whose end, however, seems to have been riveted to its shaft.

RAZORS Plates XXXIX, No. 3, LXI, Fig. 22, and LXII, Figs. 7-9, 14

This name, because of its apparent suitability, has been given to a group of metal objects with a rounded lower edge and notched upper portion. From their

very shape they can hardly have been used as adzes, added to which they are too thin. These objects occurred in seven graves (40, 65, 67, 77, 117, 122, 127). In four of them (67, 77, 117, 127), they lay just behind the head; in one (65), behind the shoulders; in burial 122 a specimen lay close to the top of the head. The seventh grave had been disturbed, and the exact position of the objects in it could not be determined. The razor (Fig. 7 of Plate LXII) is leaf-shaped with a narrow base turned up to form a small hook, and there were remains of fibre around the narrow end just below it. An exactly similar tool was also found in burial 117 (Reg. Nos. 2023; Field. 2505; Field). Fig. 8 was found in one of the rooms on the summit of the mound, and evidently belongs to the cemetery period. The cutting edge is at the broad end, and a rather sudden narrowing at the top may have been worn by or intentionally made to hold the thumb (see also Fig. 2 in Plate XXXIX, No. 3. Reg. No. 2120; Field). Fig. 9 also has a rounded cutting edge, and the notched upper portion was obviously made to accommodate either the fingers or a handle (Reg. No. 2576; Oxford). Fig. 14 (also illustrated in Fig. 3 of Plate XXXIX, No. 3) was found to have been anciently broken at its wider end which shows but little indication of an edge. There is the usual depression for a firmer grip at the smaller end (Reg. No. 2161; Field). Fig. 22 of Plate LXI (inserted here by mistake) is obviously of the same type. The cutting edge is at the broader end; beginning 30 mm from the narrow end and on one side only, the margin of this tool is slightly serrated for a space of about 60 millimetres. There is a slight hollow on the opposite side, apparently for the thumb. This serrated edge can be clearly seen in the reproduction of this tool in Plate XXXIX, and is paralleled in the modern razor (Reg. No. 2040; Oxford). The razor found in burial 127 is 11.10 mm long with a rounded edge measuring 4.30 cm across. It is of the same type as Fig. 8 of Plate LXII (Reg. No. 2120). All these razors are cut from thin sheet copper, and average 1.50 mm in thickness. They are not unlike the razors found in Egypt in the XVIIIth dynasty, except that they seem never to have been provided with a wooden or metal handle as were the Egyptian ones, for in no case are there any signs of rivet holes. A cleft stick, however, could quite well have served the purpose of a handle, and, being wood, all traces of it would easily have disappeared.

CHISELS Plates XXXIX, No. 1 and LXII, Figs. 12-13

Two small chisels were found in each of graves 92 and 136, but their position in the burials could not be determined owing to the difficulty of tracing the bones in the first grave and the great disturbance that had taken place in the second. The chisels in burial 136 are square in section, one being 9.40 cm long, and the other 8.40 centimetres. Both appear to have been hafted, as there were traces of wood at their blunt butts (Reg. Nos. 2744 A and B; Field). Of the specimens in grave 92, which resemble Fig. 4 in Plate XXXIX, No. 1, one was in a very bad condition. Traces of a wooden handle still adhered to the other, which is 6.50 cm long (Reg. No. 2289; Oxford). Fig. 12 of Plate LXII (also shown in Fig. 4 of Plate XXXIX, No. 1) widens slightly at the base. It is 6.80 cm long, and has the usual double slope to the edge (Reg. No. 2156; Baghdad). Fig. 13 is 4.70 cm long,

square in section, and also has a double slope to its edge. This example is also illustrated after a photograph as Fig. 2 (Reg. No. 2144; Field). Both these examples and others were found in the small rooms on the top of the mound and are undoubtedly of the grave period. Fig. 3 in the photograph is 10 cm long and 4.50 mm square in section. It does not appear to have been much used (Reg. No. 1570; Field). Fig. 1 was found 75 cm below the surface. It is 12.70 cm long and 5 mm square in section (Reg. No. 2496; Field). Fig. 5 was found in one of the small rooms on the summit of "A." It is 10 cm long and square in section. The cutting edge is very small and evidently intended for delicate work (Reg. No. 2121; Field). All the chisels found in the "A" mound, whether in the graves or not, are square or slightly rectangular in section, and all have double sloped edges. These copper tools were probably used for engraving, but none of them shows signs of having been used on very hard substances. Fig. 7 of Plate LXI has been discussed in the section on adze-shaped axes, but as its butt shows a certain amount of burring, it should perhaps be classed as a chisel.

ARROW-HEADS Plates XXXIX, No. 4 and LXI, Fig. 14

Only one arrow-head was found in the palace mound, but it unfortunately was not actually found in a grave, though there can be no doubt that it belonged to the period of the cemetery. It was found 30 cm below the surface of the mound, not far from its northern edge. This arrow-head is 5.40 cm long, and has two rounded prongs at one end and a chisel-shaped point at the other. It was thought at first that the two prongs were intended as barbs and that the arrow-head was fastened in a cleft in a shaft with these barbs projecting on either side. The arrows carried in the quiver fastened to the front of the chariot of Eannatum in the Stele of the Vultures are all represented with double points, and appear to be of the same type as the one found in the "A" mound. It is then to be supposed that the long single point was fixed in the arrow shaft and that the prongs were directed forward. Two arrow-heads of exactly the same type were found in graves of the same period as those of the "A" cemetery, but in another part of Kish (Reg. No. 2122; Baghdad).

FISH-HOOK Plates XXXIX, No. 4 and LXI, Fig. 15

The only fish-hook discovered in the "A" mound was found 50 cm below the surface of the summit of the mound. There is every probability, though no actual proof, that it is of the same date as the burials. It is 4.15 cm long, and resembles the modern fish-hook, except that it has no eye or even a thickening of the end of the shank. The line must have been tied to the shank, which is 3 mm in diameter, by means of a fine lashing. Very similar fish-hooks to this one were found in graves at Fara, proving that the type is an early one (Reg. No. 2386; Field).

HARPOON Plate LXI, Fig. 6

This object was found about 105 cm below the surface just above courtyard 6 of the palace. It was, therefore, in all probability, once part of the equipment of a

burial. Its total length is 9.50 cm, but it was found in two pieces, and the shank has been bent anciently. It may have been used as a fish-spear, its very serviceable barb, which is 7 mm long, being adapted to this purpose. This object must be a casting, for, from its appearance and the arrangement of the barb, it could hardly have been fashioned out of a piece of copper (Reg. No. 2681; Field).

SPATULA Plate XXXIX, No. 4 (lower figure)

This spatula is 13.60 cm long. It is made of a rectangular piece of metal which measures 5 x 3.50 mm in the middle. Both ends are flattened and slightly rounded. It was found in mound "A" at a depth of 1 m (Reg. No. 2728; Baghdad).

SPLIT-PIN Plate LXI, Fig. 8

The only split-pin found occurred in burial 47, and is made of flat copper wire about 2.50 mm thick. It may once have belonged to a wooden box, which has completely disappeared, but on the other hand it may be an intrusion in the burial (Reg. No. 1840; Field).

COPPER NAILS Plate LXI, Fig. 9

The copper nail in the same plate lay close beneath the surface of the mound. It is 3.20 cm long with a button-shaped head measuring 2.80 cm in diameter. The shank is square in section, and a portion of it is broken off. It probably once terminated in chisel a point, as do similar nails found elsewhere in Kish (Reg. No. 962; Field).

HONES Plates XXXVIII, No. 9 and LIX, Figs. 38-40

Only two hones were found, in graves 42 and 93 respectively. That from the disturbed burial 42 is shown as the lower figure of No. 9 of Plate XXXVIII. It is 16 cm long, 1.50 mm thick, and is a hard sandstone pebble of natural shape, which shows by the small amount of wear that it was not much used (Reg. No. 1611; Field). The hone from burial 93, the fourth in Plate XXXVIII, No. 9 and Plate LIX, Fig. 40, is a well-made tool, which is circular in section, and shows signs of a certain amount of use. The hole through its upper portion was cut right through from one side, and narrows as it proceeds. This hone was found near the pelvis, and presumably was carried at the waist in actual life (Reg. No. 2318; Field). That from burial 42 was in a disturbed grave, and its position could not be noted. Hones of uncertain date are treated in the last chapter.

FLINT IMPLEMENTS

No flint implements were found in the graves with the exception of a flint flake of ordinary form found in burial 152 and associated with pottery and a glazed bead in the form of a beetle. Flint hoes found in the debris of the mound are treated in the last chapter.

HOUSEHOLD AND TOILET ARTICLES

SPINDLES AND SPINDLE-WHORLS

Plates XL, No. 3, LVIII, Figs. 1-3, LIX, Figs. 15-18

The spindle illustrated in Plates XL, No. 3 and LVIII, Fig. 1, is made of copper. It was found in burial 11 with two curious rods (Figs. 2 and 3). As this burial had been disturbed, the original position of these three objects could not be determined. The spindle measures 2.85 cm in length, the shaft being 3 mm in diameter near the whorl. The hook had been anciently broken off, but the fact that there had been a hook is proved by the spindle found last season in burial 21. The whorl is a thin piece of copper, 4.10 cm in diameter and slightly domed. In order to provide the necessary weight, the hollow in the whorl was doubtless filled up with some composition, which became detached when the burial was disturbed. The purpose of the two copper rods found with the spindle is difficult to understand. Fig. 2 is 20.10 cm long, and is surmounted by a flat nail-like head, 15 mm in diameter. The staff is 4 mm in diameter immediately below the head, and gradually thickens to 7 mm in diameter at the end. The head was attached by splitting the top of the pin and bending the two portions over at the top of the head. Fig. 3, of slightly different design, is 21 cm long and 5.50 mm square at both ends and round at the middle, where its diameter is 4.50 millimetres. The head which is attached in the same way as in Fig. 2 is 16 mm in diameter. That these two objects were used in connection with spinning seems probable, and they may have been employed as distaffs (Reg. Nos. 2454, 2455; Field).

Several isolated spindle-whorls have been found. Fig. 15 of Plate LIX is a spindle-whorl of baked clay which has been poorly and roughly glazed. It was found 175 cm below the surface, and probably once belonged to a grave (Reg. No. 1832; Field). Fig. 16, from grave 49, is made of a white paste covered with a glaze that was originally green or blue in color (Reg. No. 1856; Field). Fig. 17, a finely-made whorl, is of steatite. It was found in one of the small rooms on the summit of the mound, which are probably of the grave period. It is 27.50 mm in diameter and 10 mm high (Reg. No. 2123; Field). Fig. 18 lay in front of the face of the occupant of burial 55. It is made of shell, and is divided into three parts by rough triangles, apices downward, which are decorated with parallel lines. Small pieces of lapis lazuli were formerly inlaid in the intervals between the triangles. The spindle itself was probably made of wood, and has accordingly disappeared (Reg. No. 1955; Field).

TOILET CASES Plates XLIII, No. 1 and LIX, Figs. 28B-30

Toilet cases were found in eleven burials of both sexes. Their position in those burials which were undisturbed (burials 63, 82, 92, 93, 104, 135) was close to the pelvis—a sufficient proof that they were either carried in the girdle or on a

cord suspended from the girdle. Two specimens were found in grave 92, which suggests that two people were buried there; but, though the bones in this grave were very difficult to trace owing to decay, there was no indication of a second body. Owing to corrosion it is impossible to examine any of the contents of these cases properly, for none of them can be withdrawn. Fortunately, however, sets of tools which had accidentally fallen from their cases anciently were obtained from several parts of the mound. Two such sets of tools are shown in Plates XLIII, No. 1 and LIX, Fig. 28B.

Toilet cases contain either three (burials 47, 57, 65, 92A, 93, 104, 128, 135) or four (burials 40, 69, 82, 92B) implements strung on a wire ring, the heads of the tools and the ring projecting from the top of the conical case. The sets from burials 57 and 82 seem, however, to contain only two instruments; namely, a pair of tweezers and an ear-pick in the first case and an ear-pick and a point in the second. When three instruments are found in a case, these generally comprise an ear-pick, a plain point, and a pair of tweezers; when four, a small knife is added. One of the cases is ornamented with silver bands secured by means of small rivets (the second in Plate XLIII, No. 1). In another specimen from burial 65, which no longer has a silver edging, the holes by which it was attached still remain. In every case but one, the containers for these instruments are made of thin copper rolled into a conical form with the edges slightly overlapping. Sometimes, but rarely, the upper edge of the container is turned over to stiffen it. In grave 135 the instruments with their case are entirely of silver; they are shown with other objects found with them in Plate XLIII, No. 9.

Each of the three or four instruments in a case is secured to a ring formed from a piece of wire with the ends twisted on each other. Each instrument hangs from this ring by a twisted loop, so that it is easily moved on the ring. There appears to have been nothing to prevent the instruments from falling out of the case, beyond jamming them in rather tightly. Neither is there any indication of how these cases were carried, unless the small holes which exist at the top of the rims of most of the specimens were used to sew the case to a garment or to a belt. Very similar toilet cases are used by natives of the Punjab at the present day. These modern examples are slung on a ring, and consist of tooth-pick, ear-pick, and tweezers. They are worn on a string around the neck, either in a case or without. Similar sets to those found at Kish have also been found at Bismya, in the so-called Semitic quarter.[49] Petrie[50] suggests that these instruments were used to extract thorns, the knife being used to open the wound, the point to press below the thorn and raise it, and the tweezers to extract it. In most of the examples from Kish an ear-pick is added.

HAIR-PINS Plates XL, Nos. 1, 2, 4, 5 and LVIII

Hair-pins were found in plenty during this season's work, and definite proof was obtained that they were worn by both sexes. This fact is important because it proves that the male Sumerian of the period of the graves wore long hair, an asser-

tion which has been disputed by many. All the hair-pins found are of copper, and some of them are of considerable weight, which would imply that the hair was thick and long. It is possible that pins were made of wood as well as of metal; but, of course, the former would not have been preserved. In all cases, except in those graves which have been disturbed, the pins are found close to the head. This suggests to me that these articles are not stilettos, but pins for the hair. The hair-pins found at Kish fall into four groups:—curved, coiled-headed, animal-headed, and round-headed.

The following list gives the registered numbers (with the museums where they are preserved) of the various toilet cases found during the season:—

		Burials	Registered Numbers
Plate XLIII, No. 1	Fig. 1	92	2284 Baghdad
	Fig. 2	0	2154 Field (see also Plate LIX, Nos. 29-30)
	Fig. 3	0	2007 Field (see also Plate LIX, Nos. 29-30)
	Fig. 4	93	2317 Field
	Fig. 5	0	2570 Oxford
	Fig. 6	0	2128 Baghdad (see also Plate LIX, Nos. 29-30)
	Fig. 7	57	1970 Oxford
	Fig. 8	135	2720 Oxford

CURVED HAIR-PINS Plates XL, No. 2 and LVIII, Figs. 12-13

Curved hair-pins were found in ten burials, but few of them were in a good state of preservation (burials 43, 63, 65, 101, 117, 125, 128, 139, 142, 144). The best preserved of these from burial 43 is illustrated in Plate XL, No. 2, also in Plate LVIII, Fig. 13. It is 28 cm long, and its head is ornamented with a roughly cut lapis-lazuli bead, 17.50 mm in diameter. The bead is capped by a thin plate of silver held on by the top of the pin, which is riveted over it. The upper part of the pin is square in section from the head to the flat middle portion. The greatest width of the latter is 13 mm, it is 5 mm thick, and is pierced with a small hole. Below the flat portion, the pin is round in section, and gradually tapers to a point (Reg. No. 1625; Oxford). Fig. 12 of Plate LVIII (also illustrated in Plate XL, No. 2, Fig. 2) comes from grave 117. This has a conical head of glazed paste which is fluted, and measures 17 mm in diameter. There is no hole through the flat central portion of the pin which has a maximum width of 10.50 mm (Reg. No. 2504; Baghdad). The third pin (Fig. 3) was found in burial 128. It is 19 cm long, the central flattened portion has a maximum width of 13 millimetres. The head is made of paste, which was once glazed, but is now in very bad condition (Reg. No. 2640; Baghdad). The fourth pin in the group is a small thin pin 104 cm long, which has a very slight flattening in the middle. This specimen was found in burial 125 (Reg. No. 2588; Baghdad). Those found in the other graves were in too poor a condition to be illustrated, but there were traces of a pattern on the flat middle portion of the pin in burial 142 (Reg. No. 2827; Field), which seems to be very similar to the decoration on two pins of this type found in the season 1923-24 in graves 9 and 12. It was formerly pointed out that the flattened portion of these pins was intended to prevent any movement of the pin in the hair, and also to prevent its accidentally falling out. I am still of the same opinion.

PINS WITH COILED HEADS Plate LVIII, Fig. 4

Only four pins of this type were found in the graves cleared this season (54, 105, 142, 143). The pin from grave 54 is well made with a fine point. The top of the pin has been flattened out, and then curled over in a whorl very similar to the pins numbered 5 and 7 in Plate XIX of last year's report (Reg. No. 1947; Field). This pin is 9.70 cm long, the width of its head is 6 millimetres. The second pin comes from burial 105, and is shown in Fig. 4 of Plate LVIII. This again is similar to a pin found last season. It is 17.90 cm long and 6 mm in diameter at the top, which has been bent over to form a half coil. There were traces of fibre in the hole through this pin, which may be the remains of a cord (Reg. No. 2374; Field). The pin from grave 142 is 14.50 cm long, its greatest diameter is 7 millimetres. It was in too corroded a condition to be sketched. That from grave 143 is 11 cm long and 6 mm in diameter (Reg. Nos. 2826; Field. 2843; Field).

ANIMAL-HEADED PINS Plates XL, No. 4 and LVIII, Figs. 19-21

Fig. 19 of Plate LVIII (also Fig. 4 of Plate XL, No. 4) was taken from grave 47. It is a thick, stocky pin with the head and horns of a cow (Reg. No. 1836A; Baghdad). Fig. 20 is a long, thin pin with large horns and correspondingly large ears below them. A large barrel-like projection represents the muzzle of the cow (see also Fig. 3 of Plate XL, No. 4. Reg. No. 2186; Field). Fig. 21 is a slim, well-made pin with the head, apparently, of a woman with prominent nose and large mouth. At either side of the head are large cow-like ears with horns above them (see also Fig. 5 of Plate XL, No. 4. Reg. No. 2039; Baghdad). The first two pins (1 and 2) in Plate XL, No. 4, are very similar to those mentioned. Both were found in grave 104; they measure in length 26.20 and 21.80 cm respectively (Reg. Nos. 2446; Oxford. 2447; Field). A short pin (only 10 cm long), from burial 55, is of the same type, but the face of the cow is roughly represented (Reg. No. 1951; Baghdad). The cow or human head on these pins is possibly a representation of the same deity as shown on the handles of the type A pottery, but who exactly this deity was remains to be determined. It is impossible to specify whether it is a cow's or a bull's head, but that the cow is indicated is probable, for the figures on the handled jars are all feminine. All these pins are made of cast copper, and on the whole are of creditable workmanship.

PINS WITH ROUND HEADS Plates XL, Nos. 1 and 5 and LVIII

These pins can, for the sake of convenience, be divided into two classes:—those with the solid heads which are one with the shank, and those with added heads. Pins of the first class are rare, but examples are illustrated in Plate LVIII, Figs. 14-18. Such pins were found in six graves altogether (burials 39, 50, 63, 75, 101, 122). The distinguishing feature is the heavy knob-like head which could have been formed only by casting. Fig. 18 from burial 75 is the finest specimen of this class that has yet been found at Kish, its length being 19.80 cm and the diameter of its head 2 centimetres. It must have been a very heavy ornament to wear in the hair (Reg. No. 2134; Field). Fig. 14, from burial 39, is 17.60 cm long with a

head 1.40 cm in diameter set rather crookedly on its stem (Reg. No. 1565; Baghdad). Fig. 15 comes from burial 50. It is 12.80 cm long, and is surmounted by a small knob (Reg. No. 1878; Field). Fig. 16 was found just below the surface of the mound. Its present length is about 5 cm, part of its point being missing (Reg. No. 2175; Field). Fig. 17 was found by itself in the mound. Its length is 10.70 centimetres. It has the feature (unusual in a pin of this type) of a hole for a ring or cord (Reg. No. 2295; Baghdad).

Pins of the second class with added heads were plentiful, specimens being found in no less than forty graves. There are three examples in burial 80, and two in burial 110. They are made from a round, square, or hexagonal rod of copper tapering to a round point; and a globular bead made of glaze, stone or other material was fitted on the thinned-out top of the pin to make a substantial head. The upper or lower parts or both of the beads are frequently capped with thin, dome-shaped pieces of silver or copper to give an additional finish. The thinned-out top of the pin after passing through the bead is slightly burred over to keep it in place. Sometimes this point is split and turned over on either side to hold the bead yet more firmly. In many of these pins a hole was made through the upper portion. This was to accommodate a wire ring, similar to the rings present in Figs. 28-29 of Plate LVIII. The object of the ring, which seems to have been found inconvenient in some cases and removed, was probably, as suggested in No. 1 of this volume, for a lock or strand of hair to be passed through it to prevent the pin slipping from the head. Such a contrivance must have been very necessary, for the weight of the pins is in most cases very considerable. In lieu of this copper ring which occurred in pins found in graves 63, 71, and 102, a cord would appear to have been used in some cases. Traces of a fibrous material were found in the holes of pins from graves 52, 66, 68, and 80, and the pin from burial 66 is encircled by four bands of fibre which appear to be the remains of a cord.

Those pins which are round in section from the point to the head were by far the most plentiful, numbering twenty-two examples in all. Those, that starting from a rounded point become square in section toward the head, came next in order of popularity, being fourteen in number (burials 55, 63, 66, 68, 77, 83, 102, 107, 113, 128, 130, 138, 141, 144). This latter style of pin is illustrated in Figs. 5, 6, 7, 11, etc., of Plate LVIII. Three pins, two of which are illustrated in Figs. 8 and 10, are hexagonal in section for rather under half their length (burials 56, 90, and 104). The upper part of Fig. 23 from burial 110 is octagonal in section. It would appear that all these pins were made from cast copper wire, either round, square, hexagonal, or octagonal in section, which was rounded toward the points by being rubbed down with some abrasive. The patina can readily be scaled from these pins which are well preserved, and they then show a smooth surface which would not disgrace a modern craftsman.

The points of interest of the straight pins with added heads which are illustrated in Plate LVIII may be briefly enumerated as follows:—

Fig. 5; burial 127. Upper portion square. Lapis-lazuli head somewhat roughly cut, supported in a cup of thin copper. A copper cap doubtless once

crowned the bead, but is now lost (Reg. No. 2614; Field). Fig. 6; burial 83. Upper portion square. Plain lapis-lazuli head and point missing (Reg. No. 2220; Field). Fig. 7. Upper portion square, point missing. Head of glazed paste with a copper cup above and below it. The top of the pin is split and turned over on opposite sides after passing through the copper pieces and glazed bead so as to secure all the pieces of the head firmly in position (Reg. No. 2419; Field. See also Fig. 1 of Plate XL, No. 5). Fig. 8; burial 90. Upper portion hexagonal. Head of glazed paste, roughly fluted. Hole through pin below head (Reg. No. 2271; Oxford). Fig. 9; burial 93. Upper portion round. Point missing, lapis-lazuli head ornamented with lines to suggest fluting. Cup-shaped pieces of silver above and below the stone bead. The top of the pin is split and turned over on opposite sides (see also Fig. 2 of Plate XL, No. 5. Reg. No. 2316; Field). Fig. 10 is the finest specimen of this type of pin found this season, both for size and finish; from burial 104. Upper portion hexagonal. Head is a large globular piece of lapis lazuli, set in a silver cup with a corresponding silver cap above it, held in position by split top of pin. This is an unusually large and heavy pin, and was found in the grave of a male (see also Fig. 3 of Plate XL, No. 5. Reg. No. 2429; Oxford). Fig. 11; burial 128. Upper portion square. This pin probably once had a head, and after the head was lost or broken, the projection made to receive it was removed, and the top of the pin rounded off. Hole through square portion near top of pin (see also Fig. 4 of Plate XL, No. 1. Reg. No. 2639; Field). Fig. 23; burial 110. Upper portion octagonal, point missing. Head lost anciently. Hole through octagonal portion. This pin is illustrated to show the method of fining down the top of a pin to receive a head (Reg. No. 2453; Baghdad). Fig. 24. Upper portion round. Lapis-lazuli head. Top of pin has been burred to hold the head (see also Fig. 1 of Plate XL, No. 5. Reg. No. 2546; Baghdad). Fig. 28; burial 102. Upper portion square. Glazed head, capped above and below by dome-shaped pieces of copper, held in place by burring, thinned-out top of pin. Below the head there is a hole in the pin through which is passed a small ring of copper wire whose ends are coiled on each other (see Fig. 5 of Plate XL, No. 5. Reg. No. 2425; Field). Fig. 29; burial 63. Upper portion square. Glazed head held in position by bending over top of pin. A piece of copper wire has been passed through the pin to form a ring (Reg. No. 1990; Field).

The pins illustrated in Plate XL, No. 1, all have plain, rounded tops. These were possibly made this shape, or their heads have been removed or lost, and their tops smoothed off in a similar way to Fig. 11 of Plate LVIII. The first, from burial 52, is especially interesting, as the top, when seen through a magnifying glass, shows the impression of a fine network of fibre, which may be the remains of a network that once enclosed the hair of the person in whose grave the pin was found. Fine strands of some material also pass through the hole in the pin. This pin is 26 cm long and 1 cm in diameter at the top (Reg. No. 1902; Field). The second is 23.60 cm long, 5.50 mm in diameter, and was found in grave 113. There is a hole through the pin 2.50 cm below the top (Reg. No. 2480; Baghdad). The third belongs to burial 77, and is 19.50 cm long (Reg. No. 2158; Field). The fourth has been discussed (see Plate LVIII, Fig. 11).

Of the pins in Plate XL, No. 5, all have been mentioned, except the fourth which comes from burial 107. This measures 24.50 cm long and 9 mm in diameter below the head. The head of the pin is composed of a bead of lapis lazuli capped above by a dome-shaped piece of silver. There seems to have been a corresponding piece below, which has broken away (Reg. No. 2395; Baghdad). Most of the heads are either of lapis lazuli or of glazed paste, which has now lost its color, and is generally in a very friable state. Judging from the color of the bead on the pin from burial 144, it would seem that occasionally these beads were of bitumen (this could not be examined without risk of destroying the bead), which may explain the reason why some are found with no trace of a head remaining. Glaze and lapis lazuli appear to have enjoyed an equal popularity as materials for making the heads of these pins, both being blue in color. Silver and copper were equally used to make the caps for the beads. Silver was used in burials 93, 104, 135, 141, and 144, and copper in burials 78, 102, 120, and 127 and in a pin from an unrecorded grave (Reg. No. 2419; Field). A gold cap, which may possibly have come from a pin, was found in burial 51. It is made of very thin metal, and has a small hole at the top (Reg. No. 1897; Field. Plate XLIII, No. 8, above the medallion). Fig. 22 in Plate LVIII is the head of a pin that was found in one of the small rooms on the summit of the mound. It is of glazed paste and ornamented by lines running vertically down the sides (Reg. No. 2104; Field). Fig. 25 of the same plate, which was found together with carnelian and shell beads in burial 142, is evidently a head that had come off a pin, and had been re-used as a bead. It is made of glazed paste (Reg. No. 2831; Field). Fig. 26 is a similar case. It is made of lapis lazuli, ornamented with fine incised lines. This head formed one of the beads in a bracelet in burial 67 (Reg. No. 2041B; Baghdad). Fig. 27, which comes from a disturbed grave in which no pin was found, is made of glaze, and is bluntly shaped and fluted (Reg. No. 2225; Baghdad).

NEEDLES AND BODKINS Plates XL, No. 1 and LIX, Figs. 1, 2, 5

Only two needles or bodkins were found actually in burials. Unfortunately, both graves (83 and 131) had been disturbed, so that the original position of the bodkins could not be determined. The one from burial 83 is shown in Fig. 5 of Plate XL, No. 1, and is 19.60 cm long. The eye, which was broken anciently, is made by slitting the top of the pin, which was slightly flattened for the purpose (Reg. No. 2216A; Field). The bodkin from grave 131 is very similar to the one illustrated in Fig. 1 of Plate LIX. It has a stout shaft, being 24.80 cm long and 6 mm in diameter at its thickest part. Its eye, 6 mm long, was made by bending the thinned-out top of the bodkin to form an elongated loop (Reg. No. 2676; Field). Fig. 1 of Plate LIX had its eye formed by drawing out the top of the pin to thin it and then bending it over. It is 17.50 cm long. It was found at a depth of about 1 m below the surface (Reg. No. 2080; Baghdad). Fig. 2 is also illustrated in Fig. 6 of Plate XL, No. 1. The eye, 3.50 mm long, is also formed by bending the top of the pin over. This object is probably to be regarded as a needle, being only 2 mm in diameter (Reg. No. 2257; Field). Fig. 5 of Plate LIX

is only 5.60 cm long. The top was turned over to form the eye, which was then enlarged by boring (Reg. No. 2623; Field). The seventh specimen in Plate XL, No. 1, is 14.70 cm long. The eye is broken, but enough remains to show it was formed by boring the pin instead of by bending over the top (Reg. No. 2100; Field). These needles or bodkins, which have the bent-over form of eye, can hardly have been used for ordinary sewing. They could have been employed only in leather work or basket work. Probably only the fine needles with bored eyes were used for sewing.

METAL BOWLS AND DISHES Plates XLIII and LVII

Metal bowls or dishes were found in twenty-four of the burials, male and female alike, some well preserved and others in bad condition. In some graves which were undisturbed they occupied various positions, showing that no particular place was allotted to them. In those undisturbed burials, in which only one specimen was found, the bowl was placed thus:—above the head in graves 51 and 135; in front of the chest or body in graves 55, 79, 93, and 139; below the feet in graves 87 and 97; and behind the body in 144. Burial 135 contained no less than four bowls, one of which was found above the head, a second in front of the body, and two just below the feet. In grave 104 two lay close to and below the feet. Five other graves, which had unfortunately been disturbed, contained more than one example each: two in each of burials 86, 87, 92, and 128, and three in burial 120.

To describe these copper bowls, they may be conveniently arranged in two groups—those without and those with handles.

Fig. 1 of Plate LVII was found in a badly shattered state in burial 135. Its shape is quite unlike anything that has been found at Kish up to the present. The simple rim is formed by beating out the metal all round to a width of 6 mm, its thickness in this place being 3 mm (Reg. No. 2707; Field). Fig. 2 is a plain bowl with a slightly flattened base. The impression of some fabric remains in the patina on the bottom of the bowl (Reg. No. 2846; Oxford). Fig. 3 was found in the mound, and does not come from a grave, though it probably originally belonged to one. It is illustrated because of its somewhat unusual shape (Reg. No. 2774; Field). Fig. 4 has a most unusual rim, which has been turned over all round so as to project 12 millimetres. There are four holes bored at regular intervals in the rim for suspension. It was unfortunately impossible to photograph this bowl owing to its being in pieces (Reg. No. 1892; Field). Fig. 5 is again unusual for its mouth which is of considerably smaller diameter than the body of the vessel (Reg. No. 2442; Field). Fig. 6 is very similar in conception to Fig. 3, except that its base is shallower and ring-shaped. Owing to the very bad condition of this bowl it could not be ascertained whether the ring base was soldered or riveted on (Reg. No. 2243). Fig. 7 is a round bowl with slightly flattened base, somewhat badly made and misshapen (Reg. No. 2424; Field). Fig. 9 is a deep bowl whose rim turns slightly inward, with a ring base by means of the stake. A simple handleless bowl from burial 135 is illustrated in Plate XLIII, No. 11. It is 5.80 cm high with a diameter of 11 cm, and is hemispherical with a plain rounded base.

Other handleless bowls and dishes were found, but they are not illustrated, as none of their shapes varies from those shown.

Bowls and dishes with handles were found in ten of the burials, and the finest specimens are illustrated in Plate LVII, Figs. 8, 10-14. Fig. 8 has a circular bowl with depressed, slightly rounded base. On one side of the rim there is a small curved handle, wide at its attachment to the rim, and narrowing slightly, whose end is turned under. This was badly bent by earth pressure, but unbroken (Reg. No. 2278; Field). Fig. 10 is of similar type. Its handle, wide at its attachment to the rim, projects upward, and narrows almost to a point (Reg. No. 2788; Oxford). Fig. 11 is again of the same type, but with a long handle curled over at the end. See also Plate XLIII, No. 4 (Reg. No. 1950; Baghdad). Fig. 12 was badly bent and slightly broken anciently. The handle is short and curled under, and the depressed base is barely perceptible (Reg. No. 2247; Field). Fig. 13 has simple fluted sides, the hollows of the fluting being on the outside. The handle is 2.50 cm long and 2.45 cm wide at its attachment to the dish (Reg. No. 1581; Field). Fig. 14 is of very unusual type, for its handle apparently also served the purpose of a spout, the sides being bent upward to form a semicircular trough. This dish was found in a badly broken condition, and should receive further examination after it has been properly cleaned and repaired (Reg. No. 2443; Field).

A handled bowl from grave 135 is shown in the reproduction of part of the burial group (Plate XLIII, No. 11). It is a wide, shallow bowl with a small handle on one side whose end is rolled over to form a coil. It has a slightly depressed rounded base, and is 3.80 cm high and 12.50 cm across the top. The diameter of the base is 5.40 cm, and the length of the handle 1.35 centimetres. The width of the handle is 1.80 cm (Reg. No. 2710; Oxford). Of the three handled bowls not illustrated, two are very similar to Fig. 10. The third resembles Fig. 12, except for the short handle being flat instead of being curled under at the end (Reg. No. 2541; not kept. 2644; Field). The handled bowl from burial 107 was in too broken a condition even to be registered. All these bowls and dishes, whether with or without handles, are beaten out of sheet copper. The handles are always part of the vessel, and none is soldered or riveted on. There may possibly be an exception in Fig. 1 of Plate LVII. The average thickness of the metal in these bowls and dishes is 2 centimetres. They are all, it should be noted, of very simple make, and give the impression that metal work, though advanced in other directions (for example, the cast animals found by Woolley at Tell el-Obeid), was still primitive in the case of copper utensils. It is possible, however, that as copper was a very valuable metal in early times, only inferior vessels were placed in the graves, the more elaborate specimens being reserved for the use of the living. The shape of the simpler bowls recalls to mind the metal food-dishes so extensively used in Persia and India.

PERSONAL ORNAMENTS

MEDALLIONS Plate XLIII, Nos. 8-9

Silver medallions very similar in type to those discovered last season have again been found in ten of the burials. They were found in male and female graves alike, also in those of children. The fact that this form of ornament was not exclusively female is definitely proved by its being found associated with a battle axe in grave 104 and with an adze-shaped axe in grave 135. I concluded last year that medallions were worn either at the breast or at the waist, and this conclusion is again borne out by the specimens recovered this season. In burials 51, 68, 141, and 144 the medallion lay in front of and close to the pelvis, and in burial 135 it was close to and in front of the shoulder. The remaining five graves were either disturbed, or for some other reason it was impossible to determine the position of the ornament with accuracy. All, with two exceptions, are made of very thin silver, and as a result they are in the majority of cases in a very bad state of preservation. As the designs are practically identical with those of last year's specimens, it has not been thought necessary to illustrate any more examples than the two finest, which appear in the groups of objects from burials 51 and 135 in Plate XLIII, Nos. 9 and 10.

The following brief description of the medallions found this season is given for reference:—

Burial 42. Diameter 4.50 cm and thickness .50 millimetre. Boss in centre 1.90 cm in diameter, encircled by three raised rings, space between rings being filled up with radial lines. Metal turned over around edge to stiffen the medallion. A number of holes 2.50 mm in diameter roughly punched on each side near the edge for sewing to garment (Reg. No. 1608; Baghdad).

Burial 51. Diameter 7.90 cm, 3 mm thick at edge and 11 mm thick at centre. Boss in centre 2.80 cm in diameter stands 8.50 mm high. The ornament is entirely of filigree held together by rings of wire, and the boss is soldered to the centre of it. The workmanship of this medallion is extremely regular and quite equal to the modern silver work of the East. In this ornament the usual holes on each side are lacking; but, as it is of filigree work, there would be no difficulty in sewing it to a garment (Plate XLIII, No. 8. Reg. No. 1898; Field).

Burial 68. Diameter 4.40 centimetres. Circular boss in centre encircled by three circular ridges separated from one another by shallow depressions. Between the outer ridge and the next are a series of small holes for sewing to the garment (Reg. No. 2050; Oxford).

Burial 104. Diameter 5.50 centimetres. Small raised boss encircled by three circular ridges with radial lines between, roughly incised with an edged tool. Badly broken (Reg. No. 2435; Baghdad).

Burial 120. Diameter 5.60 centimetres. Thickness of metal 1 millimetre. Boss in centre 1.90 cm in diameter, encircled by two raised rings. Edge plain and not bent over. Holes at edge for sewing to the garment (Reg. No. 2538; Oxford).

Burial 121. Diameter 5.50 centimetres. Boss in centre 1.90 cm in diameter, surrounded by three raised rings the outer of which forms a turned-up rim. Series of small holes at edges for sewing to the garment (Reg. No. 2550; Baghdad).

Burial 128. Diameter 4.70 centimetres. Boss in centre 1.80 cm in diameter, surrounded by two slightly raised rings and an outer rim which is slightly turned up. Usual holes for sewing (Reg. No. 2642; Oxford).

Burial 135. Diameter 3.30 cm, thickness 3 millimetres. Made in filigree. Small aperture in centre surrounded by wire ring, encircled by radii of short wires, another wire ring, then more radii until the edge is reached, which is bounded by a third wire ring (Plate XLIII, No. 9. Reg. No. 2723; Oxford).

Burial 141. Diameter 6.10 centimetres. Boss in centre 1.90 cm in diameter, surrounded by four bands. Usual holes for sewing (Reg. No. 2812; Baghdad).

Burial 144. Diameter 5.70 centimetres. Boss 2.50 cm in diameter, encircled by three rings. Thickness of outer rim 2 millimetres. Usual holes for sewing (Reg. No. 2845; Baghdad).

In all these ornaments, with the exception of those from burials 51 and 135, the designs are repousséd from the back. The strange agreement in the diameter of the bosses in four of the medallions is difficult to account for, unless they were made by the same workman, who perhaps used a round-ended tool in making the bosses. The similarity of design between the specimens recovered this season and those of last season is also noticeable, the sole variation being the size of the medallion and the widths between the circular lines around the boss in the centre. It is interesting to see filigree work of so very early a date, and it would be gratifying to be able to trace the country of origin. As India is now proved to have had direct or indirect connections with Mesopotamia in ancient times, the former country may have introduced this art to the Sumerians. India, especially in the north, is known at the present day for the skill of its silversmiths, among whom filigree work has reached its zenith. This technique is also still practised to a small degree in Mesopotamia, and even in Syria, which country probably borrowed the art from Mesopotamia. In Egypt the art has never been much practised either in ancient or more recent times, and the popularity of filigree work, except in the case of Syria, seems to be confined to the middle East. There is no doubt also that the medallions which have been repousséd out of sheet silver are direct copies or survivals of filigree work. The radial lines are quite evidently copied from the radial wires in the filigree specimens illustrated in Plate XLIII, Figs. 8-9, and the slightly raised ridges encircling the central boss obviously represent the round wire rings that held the radial wires in place.

FILLETS Plates XLIII, No. 9 and LIX, Figs. 3-4, 8-9

Silver or copper fillets were found in ten burials. In the undisturbed burials the fillet was always found round the brow, and it seems to have been worn over a linen head-covering; for the silver fillet found in burial 127 bears on its inside the well-preserved impression of neatly woven linen fabric. This ornament appears to have been worn occasionally by men as well as by women; for the bones in

burial 134 which were in especially good condition have been pronounced by Rice to be those of a male. Again, two silver fillets found in burials 135 and 136 are associated with adze-shaped battle axes or daggers, which are most unlikely objects to be found in women's graves.

The fillets illustrated in Plate LIX are briefly as follows:

Fig. 3; burial 127. Silver. Length 15.40 centimetres. Width of centre 1.90 centimetres. Width at ends 11 centimetres. Hole at either end for attaching to headgear or for cord. Roughly made and extremely thin (Reg. No. 2613; Field).

Fig. 4; burial 122. Copper. Length about 14.30 centimetres. Width at centre 28.50 centimetres. Width at ends 7 millimetres. Rough holes at either end for fastening around head. Roughly made and thin (Reg. No. 2562; Field).

Fig. 8. Two silver fillets were found in grave 134 both of which are illustrated. One is 10.50 cm long, and the other 7.20 centimetres. Both are irregularly cut from thin sheet silver, and have small holes at their ends to be fastened to the headgear or with a cord (Reg. No. 2696; Field).

Fig. 9; burial 100. Silver. Of unusual pattern, as it is made of round wire, 2 mm in diameter, with each end turned over to form a hook (Reg. No. 2406; Oxford).

In the upper portion of the illustration of objects from burial 135 (Plate XLIII, No. 9) there is an interesting silver fillet measuring 8.50 mm in width. Its exact length is uncertain, as not all the pieces of it were found. The ends of this fillet were secured to a cord passing round the back of the neck by bending over the four corners at either end to form a kind of tube (Reg. No. 2717; Oxford).

Fillets were found in other burials, though not illustrated, and are as follows:

Burial 77. Silver. Length about 10 centimetres. Width at centre 1.40 centimetres. Hole at each end. The edges of this fillet are embossed from the inside to stiffen it (Reg. No. 2159). A fillet similarly embossed was found last season in burial 21, and is illustrated in No. 1 of this volume.

Burial 87. Copper. Length could not be determined; width 2 centimetres. Made of a very thin strip (Reg. No. 2248).

Burial 93. Silver. Width 1.20 centimetres. Its length, owing to its very bad condition, could not be measured (Reg. No. 2321).

Burial 136. Silver. No accurate measurements possible owing to extremely fragile condition (Reg. No. 2746).

From the very rough workmanship of these fillets it would seem that they were used for supporting the hair in some way without being exposed to view. The expenditure of a little more trouble on finishing these fillets would have made them presentable ornaments. They were perhaps used for stiffening purposes by concealing them in some material such as linen.

EAR-RINGS Plates XLIII, Nos. 8-9 and LIX, Figs. 25-27

Ear-rings were the rule in male, female, and children's graves, one being found as a rule at or close to each ear. In burials 104 and 113, three ear-rings were found, two on the left and one on the right ear. In graves 40, 55, 78, 87, 97,

133, and 134 only one ear-ring was found. Of these, 55 and 134 were disturbed burials, and the absence of a second ear-ring is therefore intelligible. In the remaining burials, the ring was found on the right ear. With two exceptions in each case, the ear-rings found in the graves consist of two types. The more common type is silver or copper wire ranging from 2 to 3 mm in diameter, which has been twisted two or three times around a mandrel, as shown in Plate LIX, Fig. 25. The second type is of slightly thicker wire made into a single coil with overlapping flattened ends, as, for example, Fig. 26 of the same plate. One of the exceptions is the pair of ear-rings, found in burial 75, that are made of thin silver wire of which one end only had been flattened out. The other exceptional form of ear-ring, which almost certainly came from, although it was not actually found in a grave, is illustrated in Plate LIX, Fig. 27. It is of silver wire, 3.50 mm in diameter, with the ends twisted securely round one another.

Ear-rings are made of gold, silver, and copper, but those made of gold are extremely rare (this may of course be due to pillaging). They have been found, up to the present, in only two graves (51 and 129). The ear-rings from grave 51 are illustrated, with the other articles of jewellery with which they were found, in Plate XLIII, No. 8. Those from burial 129 are identical in pattern, though of lighter weight (Reg. No. 2654; Baghdad). The ear-rings photographed are made of wire 2 mm in diameter with each of the overlapping ends flattened out to a breadth of 4 millimetres. They measure 12.50 mm in diameter, and show signs of the hammer, used to fashion them, all over their surfaces (Reg. No. 1895; Field). On the whole, silver was more generally used for ear-rings than copper, the latter being more generally found in children's graves. In burials 52, 83, 130, and 137, a silver ear-ring was found by one ear, and a copper one by the other; in burial 113 a silver and a copper ring were found lying by the right ear, and a single copper one by the left. In two graves (135 and 139) the ear-rings were not found by the ears. These were both undisturbed burials, and the ornaments could not therefore have been accidentally shifted. In burial 130 they were found in a jar close to the head, and in 139 they lay behind the head loose in the soil.

BRACELETS Plates XLIII, No. 9 and LIX, Figs. 22-23

Bracelets were found in ten graves. A single specimen was found in each of graves 43, 67, and 92 around the left wrist. In grave 93 there were two on the left arm and one on the right. In the remaining graves, which were all undisturbed, a single bracelet was found on each wrist. These bracelets are all made of copper wire ranging from 2.50 to 6 mm in diameter, but mostly about 3 mm thick. The pattern is severely plain, for the piece of wire is simply bent round until the ends nearly or just touch. The bracelet illustrated in Plate LIX, Fig. 23, is most unusual; it is made of two pieces of flat wire of equal length whose ends are twisted over one another as opposite sides. This bracelet was found with a plain wire bangle on the left wrist of burial 93 (Reg. No. 2308; Field). Bead bracelets were found on the left wrists of the occupants of burials 43 and 67, the only two instances of any material other than copper being used for this purpose.

The bracelet in burial 43 consisted of four large beads made of shell, carnelian, lapis lazuli, and quartz (Reg. No. 1627; Field). In burial 67 the bracelet is made up of three beads—agate, lapis lazuli, and glaze. On the same cord with these beads there was a cylinder seal of shell (Reg. No. 2041; Baghdad).

FINGER-RINGS

Silver finger-rings were found in seven graves, in most cases still adhering to the phalanges, though when the hands were close together it was impossible to determine to which hand the ring belonged. In none of these graves, two of which belonged to children, were there any objects that would definitely show them to be either male or female, nor was it possible to determine the sex from the bones. In graves 48, 81, 117, 123, and 141, only a single ring was found, but no less than three were found in each of graves 52 and 139. These finger-rings are of two types. They are made of either thin strips of silver, from 1 to 1.50 cm in width, with simple overlapping edges, or round silver wire, varying from 2 to 2.50 mm in thickness, wound in from one to three coils. Wire rings were found in graves 48, 81, and 123, and flat rings in graves 139 and 141. The two varieties occurred together in burials 52 and 217. Three rings were found in burial 74; they are made by grinding down a conical shell. Their external diameter is 2.20 cm, and their internal diameter 1.60 centimetres. These rings lay in front of the face in such a position that they might equally well have been hair ornaments or finger-rings (Reg. No. 2139; Baghdad). Very similar rings to these are illustrated in Plate LIX, Fig. 12. Many such were found in the mound, but their exact use remains undetermined.

NOSE ORNAMENTS Plate LIX, Figs. 24 and 28A

Three objects which appear to be nose ornaments were found in graves 63, 100, and 128; two of them are illustrated. Fig. 24 shows two small silver studs of dumb-bell shape which closely resemble in every way the nose ornaments worn by small children in the East at the present time, one being carried on either side of the nose. The burial (100) in which these studs were found was in a badly disturbed state, but the bones showed that the skeleton was that of a child of about nine years of age (Reg. No. 2409; Field). Fig. 28A is made of bone, and measures 3.40 cm in length. It is pointed at either end, and in the middle has a narrow section 5 mm long. This also was found in a badly disturbed grave, and its exact position therefore could not be determined. From its shape and the fact that it could hardly have been used for anything else there is a reason to think that it was an ornament intended to be inserted in the septum of the nose. The dagger found in the burial indicates that it belonged to a male (Reg. No. 2650; Baghdad). The remaining nose ornament, a silver ring 1.50 cm in diameter, made of round wire with slightly overlapping ends, was found in burial 63. It fortunately was found in an undisturbed grave and so close to the mouth as to warrant the assumption that it was once worn in the nose. The objects found in this burial gave no clue to the sex of the burial, but it may well have been that of a woman (Reg. No. 1999; Baghdad).

CHAINS Plate XLIII, Nos. 3 and 5

The gold chain (Reg. No. 1908; Baghdad) illustrated in No. 3 is a very fortunate find. It is 18.70 cm long and 5 mm thick, and is built up of wire links of such a form as to make the chain square in section. The wire of which the links are made is slightly over 1 mm in diameter and uniform in thickness. On examination under a magnifying glass the wire showed the characteristic longitudinal grooving associated with drawn wire, and this find therefore represents the first recorded example of drawn wire dated about 3000 B.C. Gold wire was made by hammering up to a very late date in Egypt, which is curious, for a soft metal like gold could be readily drawn through a carnelian bead as was probably done in Babylonia. This chain was found at a level of 105 cm below the surface of the ground, adhering closely to and inside a large lump of mud.

At the time of its discovery there was therefore no exact means of dating it. Soon after its discovery, however, the fragments of a silver chain of similar form were found in burial 93 (Reg. No. 2304; Baghdad). A section of this latter chain is shown in No. 5 beneath the illustration of the gold chain. The two chains are of exactly the same workmanship and about the same thickness. The silver chain, unfortunately, is very badly corroded, and the spaces between the wire links are filled up with chloride. Owing to this corrosion it is impossible to say exactly how the wire of the links was made, but there is no reason to think that the method was other than that of drawing.

BEADS AND NECKLACES Plates XLIII, Nos. 6, 8-9 and LX, Figs. 1-61

Necklaces of beads were found in most of the burials, whether male, female, or children. These vary from a couple of beads strung on a cord to one or more elaborate strings of beads. The materials from which the beads are made are not very numerous, lapis lazuli easily coming first, followed by carnelian and glaze. In the following list are given the numbers of the graves in which beads of the various materials were found.

Lapis-lazuli beads Carnelian beads Glazed beads	Practically in every burial
Ornamented carnelian beads	75, 80, 82, 83, 88, 93, 104, 120, 121, 130, 135
Shell beads	43, 39, 42, 80, 92, 120, 134, 140, 142
Gold beads	51, 63, 120, 135
Silver beads	93, 135, 139
Copper beads	77, 78
Crystal beads	128, 135
Onyx beads	93, 120, 135
Jasper beads	64, 77
Porphyry beads	43, 104
Quartz beads	43
Agate beads	63
Haematite beads	40
Bone beads	97

In these graves in the majority of cases only a single bead or at the most three or four of any of the materials other than lapis lazuli, carnelian, or glaze were found in a necklace, showing that the stones were for some reason

difficult to obtain or else were seldom used. One would have thought that Sumer would have eagerly traded with Elam or the highlands to the north for minerals to make articles of adornment. Such, however, seems not to have been the case; and this, in my opinion, is another proof that the Sumerians of that period were not used to the manufacture of beads and that the carnelian and lapis-lazuli beads, though common, were not made in that country.

Lapis-lazuli beads are rarely well made, and compare very unfavorably in technique with the carnelian beads. The two finest that have been found are shown in Plate LX, Figs. 18-19. Of these one is 6.90 cm long, 7 mm in diameter in the middle and 4.50 mm at the ends, and the second is a little longer. Neither of these beads, which were found by themselves in burial 107, is truly round, and they were bored from both ends (Reg. No. 2401; Field). Other lapis-lazuli beads are long, barrel-shaped beads with faceted sides, as shown in No. 28 and again in No. 34 of Plate LX (Reg. No. 2306; Baghdad), which is an octagonal bead. Hexagonal beads are also known. A very common shape for lapis-lazuli beads is that shown in Fig. 14 of Plate LX, but considerably smaller in size. A longer variety similar to 42 also occurs. Lapis beads of globular shape with fluted sides are not unknown, as will be seen in Figs. 12, 15, and 27 of Plate LX. Of these 12 and 15 are the only two lapis beads found of this variety with a number of fine beads of other materials in burial 76. Fig. 27 comes from burial 80, and is the only one of its kind among the few beads found in this grave. Cylinder beads of lapis lazuli are rare. They occur in graves 42 and 43, and both are roughly made. Fig. 17, which is a flat diamond-shaped bead, roughly cut and finished, was found in burial 43. A very similar bead to this one was found in burial 104. Spherical beads, or rather what were intended to be spherical beads, are fairly common; there is one specimen at least in most of the strings of beads.

Lapis lazuli was frequently used for dividers; that is, large beads of this material were perforated with two or more holes, through which were passed the separate strings on which smaller beads were threaded. These dividers are illustrated in Plate LX, Figs. 25, 26, 30-32, 37, 38, 44, etc., and some are shown in Plate XLIII. These dividers are very roughly cut and left unfinished, and lapis is the only stone used for this purpose, with the exception of two dividers made of shell, neither of which was found in a burial. Fig. 31 comes from burial 51 and measures 2.30 x 2.10 cm, being 7 mm thick. It is perforated with two holes and ornamented with rough grooving on either side. Fig. 44 (also in Plate XLIII, No. 6, Fig. 4) comes from burial 93, and measures 2.40 x 1.80 cm, being 13 mm thick. It is ornamented back and front with four scored lines. Roughly cut pieces of lapis lazuli were also used as pendants, some of which are shown in Plate XLIII, No. 6, others in Plate LX, Figs. 16, 52-53. Frog, fly, beetle and shell-shaped amulets were cut exclusively in lapis lazuli (Plate LX, Figs. 3, 4, 60-61). Both the shells (3 and 4) come from burial 117, and are well-cut imitations. Frog amulets are rare, one specimen only being found in each of burials 59 and 100, and two specimens in burial 63 (Reg. Nos. of strings 1980; Baghdad. 2409; Baghdad. 1998; Field). The fly amulet (60) from burial 88 is the only one found (Reg. No. 2262; Baghdad). Figs. 50 and 61, both of lapis lazuli, apparently

represent beetles; of these the first was found in burial 63, and the second in an unrecorded grave (Reg. No. 1998; Field. 2196; Baghdad). Both were used as dividers, the latter bead being pierced with four small holes.

Carnelian beads are plentiful and almost invariably well-finished—a point which will be referred to below in this chapter. A favorite shape for carnelian beads is the long one shown on either side of the decorated bead in Plate XLIII, No. 9. These beads, 5.50 and 4.90 cm in length, are beautifully made and finished. The boring of their holes, which was performed from both ends, is extremely well done (Reg. No. 2719; Oxford). Similar beads were found in burial 51 (Plate XLIII, No. 8. Reg. No. 1896; Field). They also occur in necklaces from other burials, but the larger ones are on the whole rather rare, and are only to be found in the more important graves. The most usual form of carnelian bead is the barrel shape illustrated in Fig. 42 of Plate LX. This is a very favorite form for beads whether made of lapis lazuli, carnelian or glaze. Carnelian beads are often disk-shaped with a sharp ridge round the centre, specimens of which can be seen in the smaller string in Plate XLIII, No. 8. This shape also occurs in lapis lazuli and glaze. A very fine carnelian bead from burial 42 is Fig. 29 of Plate LX. It is 1.70 cm long, 7 mm in diameter, and six-sided, with the facets axial and well-cut. Another unusual carnelian bead found in burial 140 is four-sided with the angles nicely bevelled off (Reg. No. 1612; Field. 2797; Baghdad).

GLAZED BEADS

Glazed beads were very plentiful in the "A" cemetery. They are cylindrical, spherical, long or short barrel-shaped, and disk-shaped. Globular beads are also known, but very rare. They are made of a white composition resembling gypsum covered with a glassy coat, which is either white, black, or brownish in color. The white glaze was probably once green or blue, and has lost its color, but the black glaze needs further examination before any opinion can be hazarded. A rare form of glazed bead, found in burial 75, has fluted sides (Plates LX, Fig. 23 and XLIII, No. 6, Fig. 3. Reg. No. 2136; Baghdad). Another rare example, from burial 80, is No. 64, whose surface is ornamented with minute bosses (Reg. No. 2189; Baghdad). A long rectangular bead in glazed paste slightly tapering toward the ends was found in burial 127. It is about 10.50 cm long, 15 cm wide in the centre and 1 cm wide at the ends, but these measurements cannot be regarded as strictly accurate, for the bead was in a very friable state. It seems to have formed the centrepiece of the necklace. The necklaces in some of the burials were made up of hundreds of small disk-shaped, glazed beads, but owing to their fragility very few could be collected for they broke up directly they were touched. They seem to have formed a second string of beads in many of the graves, where beads of more durable materials were found.

DECORATED CARNELIAN BEADS

These are extremely interesting beads from a technical point of view. Though found in many necklaces, they were of sufficient rarity to allow of only one or two examples being included in each. These carnelian beads are decorated

in a curious manner, the designs always of a simple geometric form, being traced in white on the red ground. In the illustrations of these beads in Plate LX, Figs. 54, 50, 62, 63, 56-58, these designs for the sake of clearness are shown in black, whereas in reality they are white on a red ground. Bearing in mind that India has been from time immemorial a home of carnelian working, I turned to that country as being a possible source of these decorated carnelian beads and sent a sample to Sir John Marshall, Director General of Archaeology in India, for his observations; he informed me that similar beads have been found in great quantities in India, dating from early to comparatively recent times. To use Sir John Marshall's own words, "Many thousands of such beads have been found in excavations of Greek, Scythic, Parthian, and Kushan sites throughout the northwest of India and in many other sites of Hindustan. They also occur in the prehistoric burials of southern India." The process used in decorating these beads is extremely interesting. For the following description I am indebted to Mr. Andrews of the Central Asian Antiquities Museum at Delhi: "The lines have the characteristic quality of a brush or pen line, and yet the opacity of the line extends to varying depths below the surface in different specimens. They are produced by calcination of the surface by the following or some similar process. Coat the carnelian with a layer of carbonate of soda, then place on a red-hot iron. The depth of the white layer depends on the length of calcination. Next stop out the parts not wished to be opaque with a cement containing oxide of iron. Resubmit to heat, when the stopped-out parts will recover their lost color."

The brush work and the depth of opacity in examples from the Kish burials agree in every way with the observations made on the Indian beads by Mr. Andrews, though I do not know as yet whether the designs agree. There can be no doubt that beads of the same technique came from places as far apart as Mesopotamia and India. The question now arises as to the country of origin. The fact that decorated carnelian beads are found in quantity and at all periods in India and but sparsely over a limited period at Kish must prove that India was either the country of origin or that a third country, which had easy trade relations with India and more difficult ones with Babylonia, manufactured these beads. In view of the long interval of time during which these beads were buried with the dead of that country I am inclined to think that India was the original home of their manufacture.

It was pointed out in No. 1 of this volume that a great difference exists between the finish of the lapis-lazuli and carnelian beads found in the graves at Kish. Those of lapis lazuli—a considerably softer stone—are generally badly cut, badly shaped, and show little attempt at polish. The carnelian beads, on the contrary, are well made and beautifully finished. It would seem, therefore, that the two kinds of beads were not worked by the same people, for in that case the same finish and, more important still, the same shape might be expected. This suggests that neither variety of bead was made in Babylonia. There is also the possibility that neither stone was worked in that country, but that each had a separate country of origin. I would regard Persia as the source of the lapis beads.

Decorated carnelian beads are unknown in Egypt, and up to the present have been found in graves of only one period in Mesopotamia. Specimens have been seen in Syria in the hands of dealers, but there is every probability that they originally came from Mesopotamia. Though Kish is the only site in Mesopotamia where these beads have been found, there is no reason to think that they will not eventually be discovered farther south when other excavations are made. If they should occur more plentifully in the south of Mesopotamia than they do at Kish, there will indeed be reason to assume that they came there from India.

Fig. 54 of Plate LX (also in Plate XLIII, No. 9) comes from burial 135. It is a large bead measuring 2.50 cm by 2.20 cm, about 7 mm thick. It is well made, and the design, identical on both sides, has been carefully drawn (Reg. No. 2719; Oxford). Fig. 55 was found in burial 93; it was broken anciently. The design is also the same on both sides. It formed one of the beads of string Fig. 4 in Plate XLIII, No. 6 (Reg. No. 2306B; Baghdad). Figs. 43 and 56, both of the same design, were found in burials 82 and 51 (Reg. No. 2700; Baghdad. 1896; Field). The favorite design for these beads is as in Figs. 57, 58, and 63 (also in Figs. 4, 5, and 8 of Plate XLIII, No. 6). These strings of beads come from burials 93 and 80 (Reg. Nos. (4), 2306B; Baghdad. (5), 2189; Baghdad. (8), 2306A; Baghdad).

SHELL BEADS

These on the whole are somewhat scarce. Shell beads of a curious shape, as shown in Plate LX, Figs. 39-40, were found in burials 43 and 80. They are rectangular in shape and rhomboidal in section. Their knife-like edges are roughly notched. Three examples found in burial 43 average 12 mm in length and 7 mm in width, being 2.50 mm thick in the middle (Reg. Nos. 1626; Baghdad. 2189; Baghdad). Another interesting shell bead is Fig. 41. This was not found in a grave, but is clearly of the same period. It is made up of two cylindrical portions and measures 2.50 x 1.70 centimetres. The two sides of the bead are alike. Its curved edges are ornamented with deep incised lines. The hollow in the centre of each cylinder was inset with pieces of lapis lazuli, but of the original four pieces of lapis only two remain. Two holes through the bead allow of its serving as a divider (Reg. No. 2364; Field). Fig. 43 was found in burial 134. It too is in the form of two cylinders joined together, with a geometrical decoration on both sides. That it was intended to inlay it with lapis lazuli is proved by the four small holes on each side (Reg. No. 2700; Baghdad). Actual shells were used as beads in only two graves (133 and 142). These are gastropod shells and small in size (Reg. No. 2686; Baghdad. 2831; Field). Dentalium shells served as beads in burial 39, and one is illustrated in Plate LX, Fig. 47 (Reg. No. 1567; Field). Though many of these latter were picked up on the surface of the mound at "A" and on an adjoining site, they do not seem to have been very popular with the people who were buried in the "A" cemetery. A new type of shell bead was found in burial 42 (Plate LIX, Fig. 21). This was a circular plaque of shell, 1.80 cm in diameter and 2 mm thick, with a roughly cut hole in its centre, 6 mm in diameter (Reg. No. 1612; Field). In grave 43 there was a long shell bead of cylindrical form, 3.7 cm long and 1 cm in diameter—the only one of

its kind found. A shell pendant from burial 140 is shown in Plate XLII, No. 16. This is in the form of a bird with wings outstretched. It measures 3 cm across, and is a little over 3 cm thick. One side is white, and the other red (Reg. No. 2797; Baghdad). Shell pendants found on the mound, but presumably coming from graves are shown in Plate LX, Figs. 8 and 11. They are cut from thin pieces of mother-of-pearl (Reg. Nos. 1569 and 844; Baghdad).

GOLD BEADS

Gold beads were rarely found in the burials, but this may possibly be solely due to robbery. The finest gold beads were in burial 51 (reproduced in Plate XLIII, No. 8). These two beads were originally of the same shape as the fine carnelian beads with which they were found, but they had been squeezed flat by the pressure of the earth. They are 4.90 cm long, and are made of fine, thin gold. They were perhaps wrapped around a wooden core which has now disappeared. The joining of the edges is still evident in both of these beads; they were merely overlapped and pressed together (Reg. No. 1896B; Field). In grave 63 there was a single gold bead of very thin sheet-metal and barrel-shaped in form (Reg. No. 1998; Field). Two gold beads from burial 120 are spherical in form and about 12 mm in diameter (Reg. No. 2719; Oxford). In grave 120 two globular gold beads and one disk-shaped are made of very thin gold foil (Reg. No. 2542; Baghdad). Fig. 42 of Plate LX is a gold bead found in the mound outside a burial. It is 2 cm long and 8 mm wide in the middle. The thickness of the metal is about a half millimetre. There is no sign of any real join or soldering. Its surface is slightly faceted here and there, as if the gold had been beaten over a core of bitumen which was then removed by heat (Reg. No. 1597; Field).

SILVER BEADS

Two silver beads were found in burial 93, both in very bad condition. One of these is globular in shape, 12.50 mm in diameter, and has a small silver tube inside it evidently intended to prevent accidental cutting of the thread by the sharp edges of the hole. The second bead is a divider made by doubling over a piece of silver, leaving spaces for two threads between the halves. It measures 2.20 x 1.50 cm, and is 3 mm thick (Reg. No. 2306; Baghdad). A silver divider found in burial 139 is 1.75 cm long, 1.90 cm wide, and 3.50 mm thick. It is rectangular in shape and made of two sheets of silver united together, but corrosion prevents us from knowing how it is done. Four holes formed by grooving the pieces of silver before they were united together allowed the threads of the necklace to pass through (Reg. No. 2794; Field). Burial 135 contained a bitumen bead of barrel-shape covered with a thin sheet of silver, now in a very badly corroded state (Reg. No. 2719; Oxford).

COPPER BEADS

In burial 78 there was a copper divider (Plate LX, Fig. 44) of the same type as the silver divider just described. It has three ribs on either face and four holes

for the thread to pass through (Reg. No. 2306; Baghdad). Fig. 24 of Plate LX shows a copper bead from burial 77, of barrel-cylinder shape. The hole that once ran through is now completely filled with incrustation (Reg. No. 2163; Baghdad).

CRYSTAL BEADS

The crystal bead found among others in burial 135 is disk-shaped and measures 16 mm in diameter (Reg. No. 2719; Oxford). That in burial 128 is lozenge-shaped with a diagonal hole for the thread (Reg. No. 2649; Baghdad).

ONYX BEADS

Only three onyx beads were found in graves 93, 120, and 135. The large bead from burial 93 (Fig. 1 of Plate LX) is a fine piece of stone with irregular dark edging and a dark spot in the centre. It is bored from both sides and, though the two borings meet in the centre of the stone, they do not form a straight line. This stone was threaded on silver wire, a portion of which still remains in it. The holes at either end are 3 mm in diameter, and narrow to about 2 mm in the centre. The tool employed did its work so cleanly that the point of a needle meets no roughness on being passed along the hole. This bead measures 4.95 x 3.70 cm, and is 9 mm thick. It is also illustrated in Fig. 7 of Plate XLIII, No. 6 (Reg. No. 2305; Baghdad). Fig. 2 of the same plate was found in burial 135. It too is a flat piece of stone, measuring 4.60 x 3.10 cm, and is slightly oval in section. In this case the boring is not so successful, with the result that the two holes do not join up properly. This stone was also threaded in silver wire, a large portion of which still remains inside the hole (see also Plate XLIII, No. 9. Reg. No. 2722; Oxford). Both these beads, though a little out of shape, are beautifully polished, and were evidently much valued. The third bead (Plate LX, Fig. 33) is roughly cut, 3 cm long, 1.70 cm wide, 7 mm thick, and is oval in section. It was found in burial 120 (Reg. No. 2542; Baghdad).

JASPER BEADS

Only two jasper beads were found in burials 64 and 77. In both cases the color is red, and both are disk-shaped; the one from burial 64 is unfinished, being made by roughly rounding off the corners of a square piece of stone (Reg. No. 2004; Baghdad. 2163; Baghdad).

PORPHYRY BEADS

A bead of this material, short and cylindrical in shape, was found with three beads in burial 43 (Reg. No. 1626; Baghdad). Another bead of this material from burial 104 is rhomboidal in shape measuring 2.25 cm from top to bottom (Reg. No. 2436; Baghdad).

QUARTZ BEADS

A bead of blue quartz formed part of a bracelet on the left wrist of the occupant of burial 43. This bead is cylindrical in shape, 2.30 cm long, 8 mm in diameter, and is somewhat roughly made (Reg. No. 1627; Field).

AGATE BEADS

An agate bead, very roughly made and disk shaped, was found in burial 63 (Reg. No. 1998; Field).

HAEMATITE BEADS

Haematite is represented by a single bead in burial 40, of disk shape, 7.50 mm in diameter and 3.50 mm thick. Only five beads in all were found in this grave (Reg. No. 1578; Field).

BONE BEADS

A bone bead of long barrel cylinder form (6.70 cm long) was found with a glazed bead in burial 97, there being only these two beads in this child burial (Reg. No. 2335; Baghdad). Figs. 20-21 of Plate LX are of similar shape and material, and probably belonged to a burial which had been disturbed or denuded. It appears from this list that, with the exception of lapis lazuli, carnelian, and glaze, the Sumerian of the period of the "A" cemetery was very poorly equipped with beads. The striking absence of stone beads, with the exception of lapis lazuli and carnelian, implies that Kish occupied a somewhat isolated position which the history of the period tends to bear out. The contrast between the Sumerian beads and the beads of the Neo-Babylonian period at Kish is very marked. During the latter period, finely made beads of almost every stone suitable for decoration were plentiful in female graves.

CYLINDER SEALS

No less than 91 cylinder seals were found in mound "A," in the course of this season's work. They are made of the following materials: shell and lapis lazuli (1), serpentine (1), silver (1), calcite (4), bituminous limestone (2), glaze (4), limestone (6), lapis lazuli (10), and shell (61). The great popularity of shell as a material for cylinder seals was not confined to Kish; it was obtained in other sites in Babylonia. All these seals belong to a single period, namely the time of Eannatum, about 3000 B.C. This date is substantiated by the close resemblance between the objects found with them and the objects from Lagash which are dated in the time of Eannatum II. Similar objects were also discovered in the lower levels at Assur. Out of the total number found, only 68 seals were actually taken from recorded graves; the remainder were scattered in the debris covering the mound. As not one of the seals was found on the surface of the mound, we must conclude that they belonged either to disturbed graves, or were dropped by the people who inhabited the mound at the time when portions of it were being used as a cemetery. The evidence of the seals themselves, their workmanship, and the subjects cut upon them alone prove that they are of very early date.

In the majority of the graves only one seal was found. In eleven burials there were two seals (burials 42, 51, 56, 70, 82, 90, 93, 128, 134, 135, 144); in four, no less than three (burials 69, 77, 104, 107), and in one grave, four seals (117). There were seals in both male and female burials and two were discovered in the burials of children (graves 65 and 100). These last were appropriately very small, one being only 1.50 mm long and 8 mm in diameter, the other 1.65 by 10 millimetres. The two cylinder seals in burial 135, which was very rich in objects, are both unusual. Through one made of shell (2.60 x 1.25 cm), an especially large hole was drilled into whose ends are fitted small conical plugs of lapis lazuli. A small, neat hole was then drilled through these plugs to take the wire or cord on which the seal was carried. The scene carved upon this seal is shown in Plate XLII, Fig. 3, and the seal itself in Plate XLIII, No. 9. The second seal is made of thin silver with a core of some bituminous substance, which unfortunately is in too bad a condition for the design upon it to be made out. It is 2.30 cm long by 1.20 cm in diameter, and is illustrated in Plate XLIII, No. 9. Metal seals of any date are exceedingly rare, and fortunately this dated example has been found.

The state of preservation of the seals varies extraordinarily. The best preserved are made of the harder stones, such as lapis lazuli and rock-crystal. Shell, though a very durable substance, suffers badly from the action of salt, and the poor state of preservation of some of the shell cylinders may be ascribed to their having been placed close to the viscera of the deceased. Cylinder seals seem to have been worn either on the left wrist or hanging from the waist, and very small seals were sometimes worn on the necklace with other beads. In burials 56, 77, and 93, in each of which two seals were found, one lay close to the pelvis, and the other close by the wrist or neck. This suggests that seals were not always carried

together. It is unlikely that two seals would be in use at the same time, but as all were probably important, they were doubtless carried on the person for safety, and may also have served the purpose of identification. Even at the present day, seals are carried on the person in most parts of the East, and care is taken that they do not get into the hands of those who might use them unlawfully.

Some of the seals are divided into two registers by one or two fine lines. The upper and lower designs are always dissimilar, except in those seals which have a single geometric design as in Plate XLI, Figs. 11-12. Seven such seals were found, but mostly too worn to be illustrated (burials 67, 87, 107, 131, 144. Reg. Nos. 1973, 2038, 2249, 2400B, 2116, 2674, 2850B). In eleven seals a blank space was left in the designs, presumably for a name or an emblem as in Plate XLI, Figs. 3-4 (burials 55, 62, 77, 107, 117, 128, 134, 135, 146. Seals 1953, 1987, 2162A, 2399, 2509D, 2558, 2567, 2648, 2697B, 2718, 2883). It would seem that the seal-maker was accustomed to leave vacant spaces to be filled in accordance with the requirements of his clients. Seal-cutting was doubtless in the hands of quite a few men, and in those cases in which a space was left for the client's name the designs engraved upon them were probably mostly stock designs. The better class Sumerian, however, probably ordered his own design, and an example of such a seal is seen in Plate XLI, Fig. 8. This seal is exceptionally well cut and finished. It bears an inscription in archaic characters, which Professor S. Langdon reads as meaning, "the property of l-Tl-Dar, the Chief Minister." This seal was found just above the footing of chamber 25 into which it had been washed with some mud from a denuded grave.

Animals are depicted in most of the seals. The lion is very common, two males usually being shown. The antelopes are of several varieties. Some have long horns curving over the back as in Plate XLI, Fig. 1. Others have short horns as in Fig. 2 of the same plate, and in others again the horns take the shape of a lyre (Plate XLI, Fig. 8). In seals 2116 and 2509B, the stag is shown, and an ostrich is figured in seal 2400. The last three seals were in too bad a condition to render good impressions possible. A bull is represented in seals 2558, 2697B, 2432 (Plate XLI, Figs. 4 and 8). In the first seal the animal is represented with a bull's head and long curved horns, but does the animal really represent a bull? It is extraordinarily like the brindled gnu, or West African Bubal with the characteristic wrinkling of the skin on the shoulders. In the other two seals the bull-like body is surmounted with what appears to be a human head with horns. This figure probably represents Gilgamesh, who is sometimes shown wearing horns.

The figure of Gilgamesh, or possibly some other hero, is depicted on several seals; for instance, Nos. 2172, 2195, 2558, 2432, 2501, 2569, 2612 (Plate XLI, Figs. 8, 9, and 17). This figure, which is usually shown wearing a long beard, is never represented in profile. In some of the seals, the hero is shown holding an animal up by the tail or hind feet on either side of him, as in Plate XLI, Fig. 9. The figures of ordinary individuals are very common. In the majority of cases they appear to be herdsmen, either nude or wearing short kilts, some of which terminate in a single row of fringes. The people of better class who are depicted on the seals wear a longer skirt.

An interesting feature in nine of the seals is the representation of a scorpion (burials 55, 62, 80, 107, 134. Reg. Nos. 1953, 1987, 2190, 2299, 2399, 2400, 2694, 2697B, 2810). This arthropod always occupies a secondary position, so it is a favorite device for filling up vacant spaces in a seal. It most often occurs just below the vacant name space alluded to above (see Plates XLI, Figs. 2-4, 13 and 15 and XLII, No. 1). In two seals, a lizard occurs (Plates XLI, Fig. 15 and XLII, No. 3), and serves to fill in what would otherwise have been a vacant space. What appears to be a centipede is represented in seal 2399 in Plate XLI, No. 3, between one of the lions and the antelope. The possibility of this object representing a tree or bush must also be considered, especially as seal 2149 has a somewhat similar object in the background. There is apparently an octopus carved on the seal shown in Plate XLI, Fig. 2, just below the representation of a scorpion, and a snake appears on seal 2172 (Plate XLI, Fig. 17).

Fig. 9 in Plate XLI is unique, for the scene is placed the reversed way from the usual—an arrangement found in no other seal to my knowledge. The subject evidently did not permit of its being placed in the usual position. Seals with geometrical designs, instead of the usual mythological or pastoral subjects, are rare. There are only five such seals, three of which are illustrated in Plate XLI, Figs. 10-12. Those not illustrated are fully described at the end of this chapter. We must note, however, that one of the seals (2116) is in two registers, of which the upper one is decorated with a gulloche of two, and the lower one with a mythological subject. All the seals with this type of design are made of stone, the materials being lapis lazuli, limestone, and calcite. Of the subjects most frequently met with, the favorite scene is the representation of two lions with their bodies crossing one another, each attacking an antelope as in Plate XLI, Figs. 3, 13, 16, etc. The antelope thus attacked is always shown looking backward as if for help. This motif occurs on over thirty seals. Whether this motif is to be regarded as an heraldic symbol of Kish is difficult to say, but the idea is very similar to that shown by the early seals from Lagash so many of which show a winged eagle holding an antelope in each claw. This latter scene is also found on eight seals from the burials at Kish. Sometimes it is a stag instead of an antelope that is represented. It may be that in such a scene we have an early representation of falconry. In Mesopotamia and India at the present day, gazelles and antelopes are hunted by falcons which are trained to buffet them with their wings until the hunter or dogs arrive to complete the catch. If this be so, it would account for the frequent presence of a man holding one of the antelopes. In accordance with the usual procedure of archaic art, the falcon would naturally be represented as being of unusual size. The next most popular scene is a series of animals in file facing either to the right or to the left. Sometimes the files are of the same species of animal, or there are alternate kinds, as in Plate XLI, Fig. 1. Eleven seals show this design, in addition to those found last year.

In the richer graves seals of lapis lazuli are not uncommon. These are always considerably smaller than the shell seals, probably owing to the difficulty of obtaining large pieces of lapis lazuli of a uniform blue. Seals made from this stone are always beautifully cut, as befits the material. Seal 17 of Plate XLI is of

especial interest; it was found to have been anciently broken into two pieces longitudinally and so skilfully repaired with bitumen that the repair makes no difference to the impression of the seal. Such repairs in seals are very rare. Many of the seals are very much worn, in some cases to such an extent that it is difficult to see or take an impression from them. This wear is more probably due to the seal being worn on the person for a long time rather than to actual use. The skill with which the figures are arranged on the seals is very noteworthy. Every advantage has been taken of composition, so as to fill up as much space as possible. The arrangement of the animals with their bodies crossing one another is perhaps somewhat monotonous when a number of seals are looked at, but seen separately, the design is quite charming. Perhaps the best designed seal is Fig. 15 of Plate XLI. The skilful way in which the antelopes are placed, facing one another, so as to form with their necks and bodies a frame for another motif, is praiseworthy to a degree. The same may be said in a less degree of No. 8 of the same plate. The fault, if any, in the designs of these seals is the wealth of detail; but this is an archaic trait, and none of it is false.

The seals are all straight-sided cylinders and exceedingly well made. Even those which are indifferently carved are perfectly round and well-shaped. A lathe of some kind must have been used to shape them, for their perfect roundness could hardly have been attained by hand work. The largest shell cylinder seal measures 4.15 by 2 cm; the smallest, 13 by 7 millimetres. Seals made of this material vary greatly, as their size was ruled by the size of the shell from which they were cut. The largest lapis-lazuli seal measures 2.75 by 1.40 cm; and the smallest, 15 mm by 9 millimetres. Those seals which were made from the rarer stones vary greatly in size.

The faience seals are all made of a white porous paste now very soft. In every case the glaze has lost its color, and is now white instead of the blue or green that probably it once was. Most of the glazed seals are in a very bad condition, but, as far as can be ascertained, the glaze was smooth and well applied. These seals must have been carved when the paste was still damp. The material is unsatisfactory for this purpose, hence the small number of glazed seals that have been found in the cemetery.

The type of press seals figured in Plate XLII, No. 5, is not at all common. Nos. 2145 and 2777 were found in rubbish covering the mound, and therefore cannot be exactly dated. The fact, however, that they are of the same period as the burials, or at least some of them, is proved by Nos. 1816 and 2830 being found in burials 46 and 142, respectively. It has always been maintained that these press seals are of an earlier date than the cylinder seals, especially as their designs are always of a very primitive nature. The fact, however, that they are found in graves of the same period as the cylinder seals proves them to be coeval, unless they were re-used during the period of the cemetery.[52] The seals illustrated are made of limestone and steatite.

The seals found both in burials and separately in the debris around are tabulated on page 194 for easy reference.

PLATE XLI

1. Shell. 13 x 7 mm. A long-horned antelope in front of a lion facing to the left in the impression. Between one of the antelopes and the lion is a shrub-like object. At the top of the seal is a crescent. Burial 68 (Reg. No. 2169; Baghdad).

2. Same. 2.10 x 1.20 cm. Two lions with bodies crossed, each attacking an antelope. At the end of the scene there are a scorpion in the upper register and an object resembling an octopus below. Burial 107 (Reg. No. 2400A; Baghdad).

3. Lapis lazuli. 2.75 x 1.40 cm. Two lions with bodies crossed, each attacking an antelope. An animal which may be a lioness seems to be assisting. A portion of the seal is divided into two registers by a double line. Upper register blank; lower register and bottom occupied by a scorpion. An object that resembles a tree occurs between the lioness(?) and one of the antelopes. Burial 107 (Reg. No. 2399; Baghdad).

4. Same. 2.10 x 1.30 cm. An animal that seems to represent a bull standing on its hind legs holds an antelope on either side of it. One of the antelopes is being attacked by a lion. A portion of the seal is divided into two registers by a double line. Upper register blank; lower register occupied by a scorpion. Burial 134 (Reg. No. 2697B; Baghdad).

5. Limestone. 2.20 x 1.40 cm. A man, seated on a stool, apparently engaged in milking a long-horned antelope. Behind him is another man, dressed in a long-fringed garment, apparently superintending the operation. In the background is an animal at the top which may be a dog. Other objects may represent a dagger and trees. The long festoon-like objects seem to have some analogy with the boat-like objects found on some of the seals found last season. Burial 74 (Reg. No. 2149; Oxford).

6. Shell. 3 x 1.60 cm. This is one of the most interesting seals found in the burials. Upper register: a rectangular object may represent a Ziggurat(?) viewed from the top. On the left, two people dressed in short kilts are apparently adoring it. On the right and left of the Ziggurat(?) are similar figures apparently just about to mount it. Lower register: a man is about to plunge a knife into an animal lying on an altar. To the right are three human figures, the central one seems to be held by the other two. In fair preservation. Burial 7 (Reg. No. 2038; Field).

7. Same. 2.70 x 1.40 cm. A winged eagle holds the tail of an antelope on either side of it, whose head is turned backward. In front of one of the antelopes is the figure of a man dressed in a short kilt with a single fringe and holding one of the antelopes by the horns (Reg. No. 2321; Field).

8. Same. 3.50 x 2.70 cm. This is by far the finest seal found in mound "A" up to the present. The central motif is a human figure represented full face with a head-dress of plumes(?). The figure is nude with the exception of a triple girdle around his loins. A long beard is worn, and the face is shown with apparently three eyes, two in the normal position and one in the middle of the forehead (see Plate XLV, Nos. 1 and 2). The figure is holding two bulls (?), one on each side of him, by what appear to be bridles. The bulls are rearing on their hind legs. Farther to the left is a lion in a similar posture, with his fore paw held by a human figure similar to the one in the central design. The body of this lion crosses the figure of an antelope. The second human figure, as well as holding the first lion, is about to stab another with a dagger held in the left hand. Farther on again, the seal is divided into two registers, the upper part of which is filled in with an inscription of archaic characters. Below this is a minute scene representing a man holding two antelopes by the throat. Unfortunately, this seal did not come from a grave, but was found at the edge of mound "A," just above the footing of chamber 25 of the palace. It had probably been washed out from a burial, and there is no doubt that it belonged to the burial period (Reg. No. 2558; Baghdad).

9. Lapis lazuli. 13 x 9 mm. This seal is unique in that the scene runs down the axis of the seal instead of across it. A figure of a man, full face, holding a dead antelope on either side. Below his feet there is another antelope (Reg. No. 2195; Field).

10. Same. 1.65 x 1 cm. A series of rope-like festoons with indefinite markings above and below them. Burial 100 (Reg. No. 2408; Oxford).

11. Same. 2.30 x .90 cm. Two registers separated by a double line. In each register two double zig-zag lines cross one another chevron-wise. Burial 87 (Reg. No. 2249; Baghdad).

12. Same. 2.20 x .60 cm. Two registers. A double zig-zag line with a spot in the middle of each angle. Burial 144 (Reg. No. 2850B; Field).

13. Shell. 2.20 x 1.25 cm. Two lions with bodies crossed, each attacking an antelope. One of the latter animals is being assisted or held by a man armed with a short stick and dressed in a simple short kilt. A scorpion is carved in the background. Burial 80 (Reg. No. 2190; Field).

14. Same. 1.90 x 1.20 cm. Two lions with bodies crossed, each attacking an antelope. One of the antelopes is on its front legs trying to kick its assailant. A man dressed in a short kilt is aiding one of the antelopes. In the background is an object that looks like a six-pointed star (Reg. No. 2201; Baghdad).

15. Same. 2.90 x 1.65 cm. Scene of two lions attacking antelopes. An animal that looks like a lioness is represented as crossing the body of one of the lions, head downward. Between the heads and shoulders of the two antelopes there is placed a lizard. A scorpion is also represented in the background at the base of the seal (Reg. No. 2385; Baghdad).

16. A single lion attacking a herd of antelope, both adult and young. In the background is a device of four roundels set close together. Roughly carved, but very spirited. Burial 93 (Reg. No. 2312A; Field).

17. Shell. 2.80 x 1.90 cm. Anciently broken and repaired with bitumen. Two lions with bodies crossed. Farther on is a nude human figure struggling with two lions, one on either side. This figure, as in seal 8, has three eyes and decorations of plume round his head. A similar figure occurs in another place on the seal, wearing what seems to be a dagger at the hip, and holding in each hand some kind of implement. In the background is another dagger, a small kid with curving horns, and what seems to be another human figure about to be attacked by a snake (Reg. No. 2172; Oxford).

PLATE XLII

1. Shell. 2.20 x 1.35 cm. A long-horned animal resembling an ibex. To the right of this is a scorpion followed by an animal attacked by another scorpion. At the top is what may be a tree (Reg. No. 2810; Baghdad).

2. Same. 2.15 x 1.20 cm. A man standing between two antelopes that he is holding by the horns. A lion is about to spring upon one of the beasts, who in turn is being attacked by another man armed with a dagger in his left hand and a curved wand-like object in the right. Between this man and one of the antelopes is an object which cannot be identified. Burial 79 (Reg. No. 2180).

3. Shell and lapis lazuli. 2.60 x 1.25 cm. Lions in the usual position attacking antelopes. A part of the seal has been left bare for an inscription. Below this empty space is what might be a lizard. Burial 135 (Reg. No. 2718A; Oxford).

4. Shell. 1.90 x 1 cm. Two figures dressed in long kilts, sitting on stools facing one another. Between them is a jar(?) from which project four long rods or tubes. Two attendants are shown behind one of the figures. This scene has been found before on cylinder seals, and has been explained as representing the sucking of a liquid through a tube. A vacant space in the seal has been filled in with a curved object. Burial 134 (Reg. No. 2697A; Baghdad).

PLATE XLII (Stamp Seals)

5. First seal. Dark steatite, 3.20 x 1 cm. Horizontal section, oval with slightly pointed ends; vertical section, conical with flat base. Its impression (in Fig. 6) consists of a number of pittings arranged in a somewhat indefinite way (Reg. No. 2777; Field). Second seal. Steatite of a gray-green color. 2.80 cm long. Conical with a flat base, oval in horizontal section. Its design of curvilinear lines (nine in all, radiating outward from a common centre) is shown in Fig. 7 (Reg. No. 2145; Field). Third seal. Steatite. 3.70 x 3.55 cm. One side flat, the other rounded. On the flattened side there is a rough representation of an animal, probably an ibex (Fig. 8). Very worn. Burial 46 (Reg. No. 1816; Baghdad). Fourth seal. Steatite, mottled gray. 2.10 cm in diameter and 1.20 cm high. Conical with flat base. Fig. 9 shows its impression, which is a series of simple pittings arranged in a circle. Small lines radiate from some of the pittings. Burial 142 (Reg. No. 2830; Baghdad).

The following seals all come from mound "A," some from burials and others from the debris that covered that mound. They were either in too bad a state of preservation to give satisfactory impressions, or their subjects are illustrated by other seals. They are described for convenience in the order of their registered numbers.

1576. Shell. 2 x 2.50 cm. Burial 40. Two lions attacking an antelope protected by two men (Field).

1606. Same. 14 x 7.50 mm. Antelopes in file, facing to left in impression (Field).

1610. Same. 3.60 x 1.80 and 2.65 x 1.50 cm. Two seals in very bad condition. Burial 42.

1808. Glaze. 1.50 x .80 cm. Eagle with displayed wings, holding the tail of a rampant lion. Burial 45 (Baghdad).

1879. Same. 2.10 x 1.40 cm. Antelopes in file. Burial 50 (Baghdad).

1900 A. Shell. *a*. 1.30 x .90 cm. *b*. 1.20 x .70 cm. *a*. Lions seizing an antelope. *b*. Long-horned antelopes in file. Burial 51 (Field).

1907. Same. 2.20 x 1.20 cm. Two lions attacking antelopes (Baghdad).

1953. Same. 3 x 1.50 cm. Two lions with bodies crossed attacking antelopes. Behind one of the antelopes is an animal resembling a scorpion. Space left for an emblem or name. Burial 55 (Oxford).

1959. Same. 1.95 x 1 cm. Antelope. Burial 56 (Field).

1962. Same. 2.50 x 1.25 cm. Two lions attacking antelopes. Burial 56.

1969. Same. 2.15 x 1 cm. Two antelopes in file, looking back over their shoulders. Other objects appear to be bushes. Burial 57 (Field).

1973. Lapis lazuli. 2.10 x .70 cm. Two registers separated by a line. Upper register: eagle with displayed wings holding an antelope by either claw. One of the antelopes is looking backward at the eagle. Lower register: two men seated on stools, apparently drinking through a tube from a vessel between them. The men are dressed in single-fringed garments (compare Plate XLII, Fig. 4. Baghdad).

1987. Shell. 3.70 x 1.80 cm. Two animals with bodies crossed. One is a lion, and the other has an animal body, also a human face with beard and horns. The human-headed beast appears to be warding off a second lion. One portion of seal divided into two registers; upper register is blank, lower register contains a scorpion (Baghdad).

2012. Same. 1.90 x 1 cm. Poor condition. Apparently, a seated figure with another figure bowing before it. Burial 65 (Field).

2014. Calcite. 4 x 2.45 cm. Two lions with bodies crossed, attacking antelopes. On one side, the lion is being attacked by an indistinct animal form. On the other, the indistinct figure of a man wearing a single fringed garment is apparently assisting the antelope. Very worn (Baghdad).

2053. Shell. 2.70 x 1.55 cm. Two lions attacking antelopes. Bad condition. Burial 68 (Baghdad).

2061. Same. *a*. 2.50 x 1.30 cm. *b*. 2.30 x 1.10 cm. *c*. 1.70 x 1 cm. Not kept owing to condition. Burial 69.

2094. *a*. Shell. 1.60 x .90 cm. Paste. *b*. 2.70 x 1.50 cm. *a*. Single antelope. *b*. Apparently two figures facing one another, seated on stools and drinking (?) from a cup between them through a tube. Burial 70 (Baghdad).

2116. Limestone. 3.55 x 2.10 cm. Two registers: a gulloche of two. Lower register: two figures, each with arms upraised. Beyond an eagle with wings displayed, holding with each claw the foot of a stag. Somewhat roughly cut (Baghdad).

2148. Rock-crystal. 2.20 x 1.50 cm. An eagle with displayed wings holding an antelope with each claw. The animals face the bird, but their heads are turned to face backward (Baghdad).

2162. Shell. *a*. 3.10 x 1.80 cm. *b*. 2.55 x 1.50 cm. *c*. 2 x 1.15 cm. *a*. Lion attacking an antelope which is being defended by two men. *b*. Two lions with bodies crossed, each killing an antelope. *c*. Eagle with displayed wings, holding an antelope in either claw. Burial 77 (Field).

2214. Same. *a*. 2.50 x 1.50 cm. *b*. 2.40 x 1.20 cm. *a*. Too poor to give an impression. *b*. Lion attacking an antelope which is being protected by a man. Behind the man is another lion about to attack him. Burial 82 (Baghdad).

2219. Same. 1.15 x .80 cm. Two antelopes (?) rampant, beside what appears to be the trunk of a tree. Other trees or shrubs in the background. Burial 83 (Baghdad).

2227. Same. 2.90 x 1.60 cm. As far as can be seen, the design is of an animal standing on its hind legs, facing to the left. Burial 85.

2237. Same. 2 x 1 cm. Apparently, two seated figures facing one another with an indefinite object between them on the ground. Burial 86.

2270. Same. *a*. .20 x 9.50 mm. *b*. 20 x .80 mm. *a*. A row of animals in file, facing to the right with trees in the background. *b*. Owing to corrosion its design could not be made out. Burial 90 (*a*; Field. *b*; Baghdad).

2286. Lapis lazuli. 2 x 1.10 cm. Lion attacking an animal which is being protected by a man. Burial 92 (Field).

2299. Shell. 3 x 1.80 cm. Usual subject of two lions and antelopes. Scorpion also depicted (Baghdad).

2298. Same. 3.40 x 1.70 cm. As No. 2299.

2312B. Same. 14.50 x .90 mm. Eagle with displayed wings, holding an antelope on either side of it. Burial 93 (Field).

2341. Glaze. 2.40 x 1.20 cm. A man standing between two animals, holding the tail of each. One animal looks like a horse or ass, and has an upright plume-like tail. In a very poor condition (Baghdad).

2400B. Shell. 4.15 x 2.40 cm. Two registers separated by a fine line. Upper register: usual scene of lions, antelopes, and men. Lower register: apparently an ostrich and other animals, with two men dressed in short kilts, facing one another. Much too worn to be made out with certainty. Burial 107 (Baghdad).

2432. *a*. 3.30 x 1.60 cm. *b*. 2.90 x 1.70 cm. *c*. 3.80 x 2.10 cm. *a* and *c*. Shell. *b*. Bituminous limestone. *a* and *b*. Lion and bull with bodies crossed. The lion appears to be attacking an animal which is difficult to identify, which is being protected by a man represented full face with a long beard. *c*. Lion attacking an antelope. All in a very bad condition. Burial 104 (Baghdad and Field).

2459. Limestone. 4 x 2.10 cm. A lion attacking an antelope is all that can be made out. Burial 110.

2483. Shell. 1.50 x .80 cm. Antelope. Burial 113 (Field).

2493. Limestone. 4.50 x 1.10 cm. Antelopes in file. Below them is a decorative pattern of stars with four points (Baghdad).

2501. Shell. 3.10 x 1.50 cm. Figure of a man, full face, holding an animal by the tail with either hand. Burial 116 (Oxford).

2509. *a*. Lapis lazuli. *b*. Limestone. *c* and *d*. Shell. *a*. Antelopes in file. *b*. Lions and antelopes with bodies crossed. Man on either side, wearing fringed skirt, holding the tail of the lion and antelope, respectively. Behind one of the men is an antelope rampant. *c*. Man standing between two animals rampant, each of which is being attacked by a lion. Another man is apparently holding the tail of the lion. In a very bad condition. *d*. Man standing between a lion and a stag. Beside this group the seal is divided into two registers. Upper register: blank. Lower register: the figure of a man kneeling on one knee. Burial 117 (*b* and *d*; Baghdad. *a*; Field. *c*; Oxford).

2515. Limestone. 3.40 x 2 cm. Apparently a lion attacking an antelope with a man standing behind. In a poor condition (Field).

2547. Shell. 2.10 x 1 cm. Apparently, a row of men in short-fringed garments. In poor condition.

2555. Calcite. 1.95 x 1.30 cm. A boat with a human prow which holds a rudder. In the boat is seated a man holding an oar. Behind is a figure that resembles an antelope. This motif is very similar to some seals found during the season 1924-25. Burial 121 (Oxford).

2567. Shell. *a*. 2.90 x 1.50 cm. *b*. 3.90 x 2 cm. Lions with bodies crossed, attacking antelopes. One of the antelopes is being assisted by a man holding a weapon of some kind in one hand and a stick in the other. Beyond, the seal is divided into two registers. Upper register: blank. Lower register: a plaque-like form. *b*. Lion attacking an antelope(?) (Field).

2569. Calcite. Gilgamesh(?) holding a lion with one hand and an antelope with the other (Oxford).

2591. Shell. 2.10 x 1.20 cm. Unintelligible owing to poor condition. Burial 126.

2595. Calcite. 2.10 x 1.20 cm. A series of chevrons, bounded by a line above and below (Field).

2615. Shell. 3.90 x 2.10 cm. Human figure, represented full face, holding a spotted animal on either side of him by the legs. Beyond, two lions with bodies crossed, attacking an antelope, which is being protected by a small figure. Vacant spaces in the seal are filled up with lines arranged chevron-wise. Burial 127 (Field).

2648. Same. *a*. 2.30 x 1.10 cm. *b*. 1.90 x .90 cm. *a*. An eagle with displayed wings, holding an antelope in either claw. *b*. Similar motif. Burial 128 (Baghdad).

2665. Same. 1.60 x 1.25 cm. A man seated in a chair with a low table in front of him. Another man apparently making an offering to the first. Behind the second figure is a long-horned antelope in the act of running (Field).

2674. Same. 2.40 x 1.10 cm. Two registers. Owing to condition, the subjects are almost unintelligible, but in one register a man is shown seated in a chair. Burial 131 (Field).

2687. Material(?). 2.60 x 1.30 cm. Lions attacking antelopes, who are being protected by a man. Burial 133 (Baghdad).

2694. Serpentine. 1.70 x .80 cm. Man fighting with a lion. He appears to be holding its front paws with one hand and stabbing it with the other. Beside this scene there is a composite figure with the feet of an ox, an indefinite body, and what appears to be a scorpion above (Baghdad).

2718B. Silver. 2.30 x 1.20 cm. In too poor a condition to be intelligible. Burial 135 (Oxford). See Plate XLIII, No. 9, to the right of toilet case.

2729. Shell. 1.50 x .70 cm. An antelope walking to the left (Baghdad).

2779. Same. 2.20 x 1.30 cm. Two men dressed in long skirts, seated facing one another. Behind them is what appears to be a door. Between the seated figures is a man with arms uplifted, facing one of the figures and holding an indefinite object in his hand. In poor condition (Field).

2792. Same. 2.75 x 1.20 cm. All that can be made out is two lions with bodies crossed. Burial 139.

2817. Same. 2.80 x 1.40 cm. As previous seal. Burial 141.

2850A. Faience. 1.50 x .90 cm. Lion pursuing an antelope. In very poor condition. Burial 144.

2883. Lapis lazuli. 2.80 x 1.40 cm. A man with short-fringed skirt is shown soothing an antelope. Crossing the body of this antelope is the figure of a lion attacking another antelope. Farther on, the seal is divided into two registers by a double line. Upper register: unfortunately broken so that it is impossible to tell whether it was ever filled in. Lower register: a tree. Burial 146 (Baghdad).

STONE VESSELS

Plates XXXVIII, No. 10, LV and LVI

Stone vessels were found in only ten graves in all. Of these, six were undisturbed, and the stone vessels in them occupied the following positions: in front of knees (graves 104 and 135) and in front of face (grave 93); above head (grave 117); behind head (grave 51); behind shoulders (grave 96). It seems therefore that no particular value was attached to these objects, if their position in the burials is any criterion. The distinctive features of the stone vessels, which were found in actual burials, and are dated thereby, may be enumerated as follows:—

PLATE LV

Fig. 2. Burial 96. Limestone. Shallow bowl, poorly made with especially thick base (see Fig. 12 in Plate XXXVIII, No. 10. Reg. No. 2332; Field).

Fig. 6. Burial 135. Alabaster. Rather deep bowl with slightly rounded base, well-made, fairly thin, and well polished (see Fig. 13 of Plate XXXVIII, No. 10). Found together with Fig. 8 of Plate LVI (Reg. No. 2715; Field).

Fig. 10. Burial 93. Finely veined alabaster. Shallow, circular dish, with fairly thin sides and thick, heavy, slightly rounded base (see Fig. 4 of Plate XXXVIII, No. 10). The upper edge has been rubbed down, showing that the dish has been re-used (Reg. No. 2301; Baghdad).

Fig. 13. Burial 117. Gray granite. Small cup-like bowl, neatly made with small, slightly rounded base, and well polished (see Fig. 10 of Plate XXXVIII, No. 10). Rim anciently chipped (Reg. No. 2508; Oxford).

Fig. 15. Burial 80. Alabaster. Bowl with slightly incurved sides, thin and well-made, smoothed down to a fine polish (see Fig. 6 of Plate XXXVIII, No. 10). Rim chipped anciently (Reg. No. 2185; Oxford).

PLATE LVI

Fig. 1. Burial 94. Gray tufa. Shallow bowl of thick and heavy make (see Fig. 9 of Plate XXXVIII, No. 10). Its edge has been ground down for re-use after being broken; hence its rough and uneven shape (Reg. No. 2325; Field).

Fig. 2. Burial 48. Alabaster. Shallow bowl, well-shaped. Rim decorated with fine notches which suggest a rope pattern (see Fig. 5 of Plate XXXVIII, No. 10). Slightly damaged anciently and corroded (Reg. No. 1846; Field).

Fig. 3. Burial 51. Alabaster. Well-shaped jar, but solid and heavy, especially at the base, whose thickness is out of proportion to the size of the jar (see Fig. 3 of Plate XXXVIII, No. 10). Slightly damaged anciently and corroded (Reg. No. 1893A; Field).

Fig. 5. Burial 85. Gray tufa. Bowl, deep for size, with rounded base (see Fig. 11 of Plate XXXVIII, No. 10). Badly broken anciently and part missing. As the burial in which it was found had been disturbed, this bowl may possibly be an intrusion (Reg. No. 2224; Oxford).

Fig. 8. Burial 135. Tufa. Small dish with extraordinarily thick flat base for size (see Fig. 8 of Plate XXXVIII, No. 10). Rim chipped anciently (Reg. No. 2716; Oxford).

Fig. 9. Burial 104. Granite. Thick, heavy bowl, deep for size, with inside roughly ground out (see Fig. 2 of Plate XXXVIII, No. 10). Rim shows signs of having been ground down for re-use (Reg. No. 2437; Field).

From the fact that most of these bowls and dishes are clumsy in form with slightly rounded bases and convex sides it would appear that the manufacture of stone vessels, even of the simplest type, was a decaying industry in the period of the "A" cemetery. But that stone vessels were valued notwithstanding is proved by slightly broken ones being ground down to make similar vessels. There were rivet holes in fragments of alabaster bowls found elsewhere in Kish, and silver or copper wire was used to repair them. The cutting-down was more or less carelessly done, the resulting dishes and bowls being very much out of shape, as will be seen in Plate LV, Fig. 2 and LVI, Figs. 1, 9-10. The comparatively small number of stone vessels in the graves also suggests a dying industry, unless the scarcity of them is due to their being considered too valuable to be buried. A number of stone bowls and dishes were found in situations other than the graves of mound "A." In most cases they were in a very fragmentary condition, and the illustrations given are reconstructions from these fragments; for, provided there is a piece of the base, a portion of the rim and some connection between them, it is a fairly simple matter to ascertain the original shape of the bowl or dish to which the fragments once belonged. Of these stone dishes, only three (Plates XXXVII, No. 1 and LV, Figs. 5-9), which came from the level of the palace, can be dated. For a further description of these three, see last chapter.

The level bases, slightly concave sides and thin walls of most of these dishes which were not found in graves, are very noticeable, and show a high level in stone-working. I think, therefore, that it is permissible to assume that the majority of them belong to an earlier period than do the bowls and dishes of an obviously coarser type which were recovered from the graves.

The distinctive features of the stone vessels, which being found neither in the palace nor in the graves are of uncertain date, may be enumerated as follows:—

PLATE LV

Fig. 1. Tufa. Bowl with very thin, flat base. Fragment only. Found 1.50 m below the surface on the south slope of mound "A."

Fig. 3. Limestone. Fragment. Rounded base, unpolished. Picked up by basket-boy on surface of mound.

Fig. 4. Gray limestone. Shallow bowl with flat base and incurved sides, well-made. Fragment only. Two rivet holes show that this bowl was valued and thought worth mending. Found 35 cm below surface of mound.

Fig. 7. Tufa. Small, flat-based dish, anciently broken and repaired. Found 1.25 m below surface on eastern side of mound (Reg. No. 1280; Baghdad).

Fig. 8. Light-green slate. Bowl deep for size, flat-based, with very smooth surface flawed in places owing to quality of the stone. Fragment only. Found about 2 m below surface on eastern side of mound.

Fig. 11. Alabaster. Shallow bowl, whose form suggests that it is of the period of the graves. Edge much chipped with use. Found 1 m below surface of mound.

Fig. 12. Alabaster. Bowl with slightly rounded base and incurved sides. One m below surface of mound.

Fig. 14. Tufa. Bowl with thin, flat base. Found 30 cm below surface of ground.

PLATE LVI

Fig. 4. Alabaster. Vase thick for size, but beautifully made and finished, with excellent shape and polish. Fragment only. Found at 1.10 m below surface of mound.

Fig. 6. Limestone. Mortar with curious, rounded rim and slightly rounded base. No pestle. Found in chamber marked on skeleton plan of the palace; these are probably of period of the graves.

Fig. 7. Limestone. Dish with flat base, probably originally rectangular, with projecting spout at one end. Fragment only. Found about 1 m below surface of mound and from its position probably had been thrown out or washed out of a grave.

Fig. 10. Limestone. Small bowl with flat base. Found 60 cm below surface of mound. Rim appears to have been ground down for re-use after being broken. May have originally belonged to palace period and been re-used at period of the cemetery (Reg. No. 2228; Field).

Fig. 11. Limestone. Mortar with smooth, but unpolished surface. No pestle. Found about 1 m below surface of mound.

Fig. 12. Pink limestone. Mortar, polished outside. No pestle. Base and interior worn with much rubbing. Is badly knocked about and chipped. Found about 1 m below surface (Reg. No. 1330; Baghdad).

Fig. 13. Tufa. Mortar with incurved sides. No pestle. Bears evidence of much use. Found about 1 m below surface of mound.

In none of these mortars are there any stains or other evidence as to what substances were ground in them. The material of which the majority were made proves that the substance to be ground was not very hard. Though there is in some of the specimens evidence of a good deal of wear, this seems to be the result of constant use rather than the harshness of the material ground. It is not surprising that no mortars were actually found in the graves; for their use would obviously be confined to the kitchen, as in the case of the large bowls and pans described in the chapter on Pottery as belonging to small houses of the period of the cemetery.

MISCELLANEOUS OBJECTS OF UNCERTAIN DATE FROM MOUND "A"

This chapter is devoted to the various objects found in and upon the mound, which neither belong definitely to the period of the palace nor to that of the later cemetery. Plate XXXVI, Fig. 9, shows a block of hard cherty limestone with a rounded top and flat base. It is 1.20 cm long, 8.50 cm high, and 4.80 cm thick. On the base the figure of a man is roughly incised, goading an ox (?) with a stick in one hand, and with the other hand holding the animal by the tail.[53] Other details of the scene unfortunately cannot be identified owing to the damage caused by the stone while it was used as a hammer. The stone is polished, and from its shape seems once to have been some kind of votive tablet. It was found lying in a layer of ashes 1 m below the surface of the ground on the southern side of mound "A," but its position alone does not suffice to date it (see also Plate L, No. 12. Reg. No. 771; Oxford).

Figs. 10 and 12 of Plate XXXVI show the obverse and reverse sides of a tablet found beneath a platform of convex-plano bricks at the north-west corner of chamber 31 of the palace. From the style of writing which is linear, and the square heads of the characters, this tablet does not date earlier than 3000 B.C. It can, therefore, be regarded as belonging approximately to the period of the cemetery. This tablet is 9.30 x 8.90 x 2.70 cm, and is of unbaked clay with slightly rounded edges. It contains accounts which include numerals and proper names, and a translation by S. Langdon will appear in a forthcoming publication. It was found at a level of 47 cm below datum and 2.11 m below the surface of the ground (Reg. No. 2410; Oxford).

Plates XXXVII, Nos. 7-13, and XLVII, No. 8, show a series of objects from a grave of the Greek period which has been described in the chapter on the later brickwork and walling. No. 7 is a bronze ring that measures 1.90 cm across. It is made from a strip of metal widened in the middle to form a bezel (Reg. No. 798; Field). No. 8 is a pottery lamp, somewhat roughly made, with its spout blackened by use. It is coated with a smooth glaze which has lost its original color and is now white (Reg. No. 800D; Oxford). The lamp shown as No. 9 has the merest suggestion of a handle, and is slightly ornamented on its upper surface with a design in relief. It is made of clay of a straw color and indifferently baked (Reg. No. 800F; Oxford). No. 10 is a vase with a handle and a narrow neck and mouth. It is made of a soft straw-colored paste coated with a fine thin glaze which is now white and badly crackled all over by salt. The surface of the jar beneath the glaze is very rough; probably purposely so, in order to afford a keyhold for the glaze. The base too is very rough (Reg. No. 800A). No. 11 shows a dish of thin pottery with a groove around the outside of the rim. It is of straw-colored ware, coated with glaze, and is a well-made dish, but slightly twisted in firing (Reg. No. 800C; Baghdad). No. 12 represents a small dish coated with a thin glaze, now

white, which still bears traces here and there of its original blue color. The ware is good, and the surface slightly roughened to take the glaze, which is smooth and level (Reg. No. 800B; Oxford). No. 13 is another lamp with a slight decoration in relief on its upper surface. It is coated with glaze. The mouth is slightly broken and shows traces of smoke (Reg. No. 800E; Baghdad).

The pottery figure (Plate XLVII, No. 8) was also found in the grave, but it is not known with what body it was placed. It is 26.20 cm long, and represents a nude female with an elaborate head-dress. The figure was made in a mould in two pieces, back and front. The fitting-together of these two halves was well done, the surplus clay being pared off with a knife. There are indications here and there that the figure was once covered with stucco and then painted (Reg. No. 799; Baghdad). Another figure also found in this grave is made of alabaster; but it is not illustrated, as the head is missing, and as it was very badly incrusted with salt. It represents a partially nude female in the partly recumbent posture common to the period (Reg. No. 800G; Baghdad). Two strings of beads include ivory, glaze, glass, limestone, and quartz (Reg. No. 796; Field. 797; Baghdad).

Plate XXXVIII, Figs. 4-6, represents flint hoes, all of which were found in the debris covering the palace. They have no certain history. Judging from their positions, they probably belong to the period of the cemetery; that is, about 3000 B.C. These were photographed to the same scale, and the object in Fig. 4 is 12.50 cm long, 3.90 cm wide, and 10.50 mm maximum thickness. The three were made of light-gray chert, and none shows any signs of being used or any trace of polish on their edges. They were probably lashed to a wooden handle, and the thongs smeared with bitumen (Reg. Nos. 1589; Oxford. 2931; Field. 2258; Field. See also Plate LIX, Fig. 43). The small flint in Fig. 36 of the same plate was found just below the surface of the mound. It is 3 cm long, 3.50 mm wide, and 2.50 mm thick. A portion is wanting from one end. This object shows signs of secondary chipping and on account of its scoop-like end may have been used to apply kohl. The flint flakes (Figs. 41-42 of the same plate) were found together 30 cm deep on the south side of the mound.

In Plate XXXVIII, No. 7, the object on the left is a plumb-bob found 3 m below the surface of the palace mound. It is 3.60 cm high, and is made of limestone whose faceted face is thickly coated with bitumen to give it a globular form. A hole bored from both ends is provided near the top for suspension (Reg. No. 2229B; Field). A similar plumb-bob (Plate LIX, Fig. 37) was found with Fig. 33 at a level which suggests that they may have been used in the building of the palace. It also is faceted, but no traces of a bitumen covering remain. The plumb-bob on the right in Plate XXXVIII, No. 7, was found close to the surface of the ground, but as it so closely resembles those from the palace level, it may perhaps have been re-used during the period of the graves. It is also made of limestone with faceted sides, and it was doubtless once coated with bitumen. The hole for suspension is in this example replaced by a groove to take the cord (Reg. No. 1616; Field. See also Plate LIX, Figs. 33, 34, 37).

No. 8 of Plate XXXVIII illustrates an interesting series of stone celts which all came from mound "A" with the exception of the last, picked up on

mound "W" to which it had evidently been brought. They are all hard stone and on the whole well-made. The first from the left is of slate (Reg. No. 2930; Oxford). The ones beside (Reg. No. 2740; Oxford) and below (Reg. No. 2297; Field) are of a hard black stone resembling basalt. The largest and best-made specimen (Reg. No. 2753; Field) is 4.80 cm long, 3.30 cm wide at the cutting edge. It is of hard limestone. The specimen in the upper right-hand corner has a well-defined cutting edge (Reg. No. 2125; Field), and is made of green jasper, and the one below (Reg. No. 1692; Oxford) is a hard, dark-gray stone. It is probable that these celts were used for warfare. As all these weapons were found close to the surface of the mound, they can hardly be of an earlier date than that of the graves (see also Plate LIX, Figs. 46-48). The celt illustrated in Plate LIX, Fig. 45, is of gray-green slate and badly chipped.

Plate XXXVIII, No. 9, shows a group of hones which with the exception of the fourth and the largest were found scattered over the "A" mound. The exceptions were found in burials 93 and 42, respectively, and have been described in the chapter on Tools and Weapons. These hones are either sandstone or slate, the four smallest being of the latter stone. Their dimensions are indicated by the scale, which represents 5 centimetres. It will be seen that rough water-worn pebbles were used for making hones as well as hand-cut stones like the fourth, which alone is circular in section (Reg. No. 2318; Field). The fifth hone is of slate, and has the hole bored from both sides. It was found 1 m below the surface. Nos. 2137 and 1611 were sent to Field Museum, and Nos. 2355 and 1834 were retained by Oxford (see also Plate LIX, Figs. 39-40). The second hone should not be included in the group. It was found on mound "W," and is Neo-Babylonian in date.

A shell very similar to that shown in Plate XXXVIII, Fig. 3, but undecorated, was found lying on the pavement in one of the chambers marked in the skeleton plan of the palace. It is 19.50 cm long, and had a hole in it repaired by inserting a small plug of lead which was burred over on both sides (Reg. No. 2103; Baghdad).

The object shown in Plate XXXIX, Fig. 2, is an adze of copper or bronze, 14 cm long and 9 cm high at the socket. It was found at the base of a pottery drain in chamber 61, and is in a remarkable state of preservation, owing perhaps to its position protecting it from salt. There was no means of exactly dating the drain in which it was found, but it was certainly later than the palace. I would assign this adze to the period of the first dynasty of Babylon, although in the Baghdad Museum there is a similar implement of unknown date, made of iron—a metal which appears to have been unknown in that period. Andrae[54] illustrates a tool of this type among objects which are of the same period as the "A" cemetery, to which, however, I do not think it can possibly belong (Reg. No. 1491; Baghdad).

The silver ornament shown in the right-hand lower corner of Plate XLII, No. 16, is flat on one side and rounded on the other, with radiating lines around an open space in the middle. The reverse has the same design as the front, but is partly hidden by a dome-shaped piece 1.30 cm in diameter and .50 cm high.

This dome is broken at the top in such a way as to suggest that a ring is wanting. By analogy with silver ornaments found in the burials in the "A" cemetery, this object probably belongs to the same period. This ornament is 18.50 cm in diameter and .50 cm thick in the middle (Reg. No. 2392; Baghdad).

Plate XLII, No. 17, shows a number of objects found on or just below the surface of the palace mound. Their dimensions are indicated by the scale, which represents 3 centimetres. The four notched flints at the top of the illustration were undoubtedly used as teeth for a sickle. Some of the bitumen by which they were fastened in position still adheres in the specimens shown in the right-hand corners of the illustration (Reg. Nos. 917; Field. 1391; Baghdad). An examination of the impression on the bitumen shows that these flint teeth were formerly fastened to a pottery implement of some kind. This probably explains the numerous pottery sickles found on most ancient sites in Mesopotamia. These sickles are quite useless as they are found, but, provided with flint teeth, they serve their purpose adequately.[55] Flint cores and flint flakes similar to those on the left of the illustration are common objects on the palace mound. They are found on the surface as well as deep within it, and their use seems to have extended over a long period of time. The upper flint arrow-head (Reg. No. 873; Baghdad) was found on the surface close to the "A" mound, from which it may have been washed down. The lower one was picked up by a boy close to the palace, though he was unable to tell us exactly where. The arrow-head between the two notched flints on the right of the illustration was picked up by myself on the surface at the highest part of the mound (Reg. No. 747; Baghdad). Flint is not obtainable in Babylonia itself, and was probably brought either from the Arabian desert or from Elam. The former seems the more probable, for flints can be picked up from the surface of the ground in that country. It seems that as in Egypt, flint was used for many purposes up to a comparatively late period in the form of long, thin flakes similar to those in the illustration.

The knife-handle shown in Plate XLIII, Fig. 10, was found 1.40 m below the surface of the ground, just above the footing at the southern end of court 6 of the palace. The close resemblance of this object to those shown in No. 2 of the same plate suggests that it is also of the grave period. This handle is 8.70 cm long, 24 cm in diameter at the base, and 1.90 cm in diameter at the top. It is made of calcite, and the bands (6 mm wide) which ornament it are of bitumen. The circular cuttings made in the stone are slightly bevelled and average 2.50 mm in depth; but this bevelling being the wrong way about does not assist in keying the bitumen inlay (Reg. No. 2668; Field).

Plate XLIII, Fig. 7, shows a portion of a small statuette that was found in the chamber enclosed by a later walling marked in the skeleton plan of the palace (Plate XXII). It is 3.50 cm in height, and is made of gypsum. A garment is worn passing over the left shoulder and under the right arm. The eyes were evidently once inlaid with some other substance, probably lapis lazuli, which has disappeared, and owing to the action of salt the features are sadly corroded. From the level at which this figure was found and its locality it belongs most probably to the cemetery period (Reg. No. 2346; Field).

In Plate XLIV, Fig. 1, are shown two curious pottery stands, the lower one of which was broken anciently and repaired with bitumen. Their size is indicated by the 5 cm scale alongside them. These stands are extremely well baked, with a rolled edge at the base and a very thin upper edge. The upper one was photographed from above in its proper position, and the lower one is lying base uppermost. Such stands must have been used to support round-based jars while drying, the knife-like upper edge on account of its thinness precluding any risk of the jar adhering to the stand. On account of the bitumen used to repair it, the lower stand at least cannot have been used in the kiln. As these stands were found just below the surface in the middle of mound "A," they presumably belong to the period of the graves (Reg. No. 2234B; Oxford. 2234A; Field). Fig. 2 of the same plate illustrates the simple pottery rings of which large numbers were found in the debris covering the palace. They vary in size from 5.30 to 8.50 cm in diameter, the hole through them averaging 2.50 mm in diameter. As a rule they are carefully made, and of baked clay in all cases. They are too small to have been used as stands for pottery, with which must be coupled the fact that the pottery of the grave period, to which these rings apparently belong, never had the base pointed. It is probable, therefore, that these objects represent some form of game for children, perhaps quoits; and the trifling variation in size of the many specimens found certainly lends support to this conclusion (Reg. No. 2918 A, B and C; Oxford and Field).

In the upper portion of No. 3 in Plate XLIV are shown two curious objects of lightly baked clay which are rounded in form with slightly conical upper and lower surfaces and an average diameter of 5 centimetres. They may possibly be jar-stoppers. From their position, .50 m below the surface of the ground, they presumably belong to the grave period (Reg. No. 2607A; Field. 2607B; Oxford). The two objects in the lower part of No. 3 were found about 3 m below the foundations of the north-west corner of the palace. They must, therefore, belong to the same period as the palace or earlier. The one on the left measures 5.30 cm in length, and that on the right 4.60 centimetres. Both are made of unbaked clay. From their shape they must be sling-stones of the period of the first dynasty of Babylon. They are also comparable in shape with the sling-stones found in the Glastonbury Lake Village. The small sling-stone in the middle of the illustration was found at a depth of 1 m in the "A" mound (Reg. No. 2345; Oxford). It is a natural water-worn pebble.

In No. 4 of Plate XLIV is shown a set of objects made of bitumen, of a type which is very common in the "A" mound, occurring at various depths. They are variable in size, the base is flat, and the upper surface slightly conical. The specimen in the lower part of the illustration is 3.50 cm in diameter. It has been suggested that these are jar-stoppers; but I prefer to regard them as being some form of draughtsmen, as they are far too small to serve as stoppers to any of the pottery found. From their situation in various parts of mound "A" they are probably of the same date as the graves (see also Plate L, Figs. 9-11. Reg. Nos. 2361; Oxford. 2362; Field with others unnumbered). Figs. 5 and 6 of the same plate show two objects which are still a problem. They are made of baked clay, being 8.90 cm

across and 8 mm thick. They are obviously a pair, and were photographed to show the upper face of one and the lower face of the other. They are well-made and very smooth on the upper surface. Possibly they may be clappers or bones, but their fragile nature makes them hardly suitable for this purpose. They were found close to and at the same level as the block of brickwork marked in the skeleton plan of the palace, and they are therefore of the same period as the annex (Reg. Nos. 765; Oxford. 766; Field).

The first vessel shown in Plate XLIV, No. 9, is earlier than the grave period; it was found at a level of 53 cm below datum, or 1.12 m below the surface of the ground. It therefore belongs to the same period as the northern part of the palace (Reg. No. 2895C; Field). It was found with the tall-spouted jar, the last piece of pottery but one on the right and both with other jars belonging to the same group are described in the chapter on pottery. The bowl on the right of the illustration is unusual in being unduly thick and made of a brownish-colored ware whose surface has been slightly polished with a pebble. It is undated, but it corresponds very closely with some bowls found in the graves (Reg. No. 2328; Field). In Plate XLV, Nos. 1-2, we see what appear to be fragments of pottery dishes curiously ornamented with human faces all the way round. No. 1 comes from the palace mound, where it was picked up by a small boy. It is exceedingly well baked, and the ware is gray-green in color. The notched beading which was part of the rim is a roughly modelled nose with eyes on either side of it made of flat pellets of clay with a circle incised in the middle to represent the iris. A noteworthy feature is a third eye placed where the forehead should be (Reg. No. 823; Field). No. 2 was found 40 cm below the surface on the south-west side of the platform of the Ziggurat at Tell Ahaimir. It is included here on account of its resemblance in design and material to the fragment just described. This fragment too is evidently part of a bowl or dish which could be suspended by holes through two or more lugs, one of which remains (Reg. No. 383; Baghdad). The strong similarity between these two fragments and the figures on the handles of the type A jars from the "A" cemetery proves them of the same date. That the presence of a third eye has a meaning and is not merely a decorative feature is suggested by its presence in both examples, but there is still further evidence in the fact that the figures of what appear to be deities in two cylinder seals from the "A" cemetery are also provided with three eyes (see Plate XLI, Nos. 8 and 17). This point should later on prove to be of value in identifying the particular deities which these figures represent.

Plate XLV, No. 3, shows two curiously decorated pottery dishes. That on the left is 15.90 cm long, 8.60 cm wide and 4.85 cm high. It was found 40 cm below the level of the ground at the northern end of chamber 55 of the palace. From its position it would seem to belong to the period of the burials. In shape it is rectangular, and it is entirely hand-made with the corners slightly pinched outward. The outside is plain, but the inside is decorated with a design deeply incised with a sharp point that suggests a field surrounded by canals in one of which there seems to be a fish. The figures of two animals, perhaps turtles, appear at either end. There are deeply punctured holes at irregular intervals in

the design which may possibly have been used to hold the stalks of flowers. The sides of the interior are decorated all round with representations of trees drawn in a very archaic fashion (see Plate L, Fig. 7, for a clearer representation of the design. Reg. No. 1860; Baghdad). The second dish was found high up in the debris filling the pillared hall. It is hemispherical in shape, with the inside plain, but decorated in relief on the outside with representations of trees separated by five radial partitions. I am inclined to think that this object is a mould rather than a dish on account of the design being in relief (Reg. No. 1831; Field). Two objects of the same technique are shown (Fig. 4). The upper one (Reg. No. 2543; Field) is 6.40 cm in diameter at the rim, and is 2.60 cm high. The lower one (Reg. No. 2625; Oxford), which is incomplete, is 9 cm in diameter and 3 cm high. It has a hole on one side just below the rim as in the similar mould in Fig. 3. From the similarity of the trees in their designs to those on the ornamented dish described above and to the trees on some of the handled jars found in the graves, these moulds must almost certainly be of the same date; that is, the period of the graves. Dishes or moulds very like these are known from Susa.[56]

In Fig. 5 of the same plate is shown a jar of ash-colored clay with an incised decoration filled in with gypsum. The pattern, as will be seen best in the sketch of Plate LII, Fig. 9, commences from the top of the shoulder in the form of a double row of double circles, 9 mm in diameter. Above these is a series of squares averaging 2.30 cm each way. Above again are more circles surmounted by another row of squares immediately beneath the rim. The white pigment projects for an appreciable distance beyond the face of the jar, but this may partly be accounted for by the fact that the jar had been accidentally burnt (it was found in a heap of ashes). This most interesting jar is in a deplorable state owing to salt, but there is reason to think that its surface was originally semi-polished. It was found in the building marked in the skeleton plan of the palace, and is probably of the same period as the graves (Reg. No. 2131; Oxford). The group of pottery illustrated in Figs. 23-27 of Plate LI was found together, a little north of the N. W. corner of the palace at a depth of 1.12 m below the surface of the ground, or 52 cm above datum level. This was well above the bottom of the foundations of the palace, and I would date this group to the palace period, owing to the shapes of Figs. 26 and 27 which do not in any way resemble the pottery found in the graves, though Fig. 23 might well have come from a burial, as it is similar in type to Fig. 22. About 75 cm below the surface of the ground in mound "A" the broken fragments of a large jar were found, similar to that shown in Plate LIII, Fig. 56. On one side the shoulder is ornamented with three drawings in black paint, of which Fig. 13 of Plate L is a tracing. On the left is what seems to be a representation of the sun surrounded by rays; in the middle, a curious ladder-like object; and on the right, a semicircle with a dot in the centre. This jar probably belongs to the same period as the graves, for the pot with which it is compared was found in a building of that date (Reg. No. 2046; Field).

The bracelet in Plate LIX, Fig. 22, was found with an iron bracelet at a level of 75 cm below the surface of the ground. Its association with the iron bracelet would show that it is of late date, and it will probably be found to be made of

bronze. It is 4.80 cm in diameter, and made of wire 5.50 mm in diameter, whose ends have been thinned out, and each twisted round the opposite side of the bracelet. The accompanying iron bracelet is 44 mm in diameter, and made of wire 4 mm in section which is bent into a circle whose ends do not quite meet (Reg. No. 2692; Field). Plate LIX, Fig. 31, represents a flat rectangular plaque whose intended use it is difficult to determine. It is cut out of a schistose rock, and is 11.80 cm long, 8.50 cm wide, and 6.50 mm thick. Five holes run obliquely through the plaque, one at each corner and one near the middle of one of the longer sides. This is a well-made object; both surfaces are smooth, and show a certain amount of polish. It was found .50 m below the surface of the highest part of the mound (Reg. No. 2705; Field).

The palette shown in Fig. 32 is made of dark-colored limestone. It is 12.30 cm long, 10.50 cm wide, and 11 mm thick, and is nearly round in form with two lugs, each perforated with a small hole, on opposite sides. Both surfaces show signs of rubbing, but no trace of color remains. Though the stone of which the palette is made is hardly suitable for rubbing coarse materials, it would serve for the preparation of paints and colors such as the various ochres (Reg. No. 1377; Field).

Fig. 35 of the same plate, which is probably a wheel from a model chariot, though its edge is rather sharp for this purpose, was found 80 cm below the surface. It is 8.90 cm in diameter and 1.75 cm thick. A well-bored hole, 18 mm in diameter, runs through the centre of the object, which has a circular depression around the hole on one side (Reg. No. 1614; Field).

Fig. 44 of Plate LIX is a piece of gray limestone 5 cm long and 1.70 cm wide. Its edges are faceted, and one end is chisel-edged. This object may have been intended to be a plumb-bob or possibly an amulet, but was left unfinished with neither hole nor groove for a cord. It was found about 1 m below the surface of the ground (Reg. No. 664; Baghdad).

The shell medallions illustrated on Plate LX, Figs. 6 and 7, were found by themselves in the debris of the palace mound. Fig. 6 is 1.90 cm in diameter, and is made of a thin plate of shell engraved on both sides with concentric circles and radial markings. It is perforated at the centre and either side, apparently for sewing on a garment (Reg. No. 2147; Field). Fig. 7 is slightly smaller than 6, and has but a single hole in the centre. Though these objects cannot be precisely dated, it is probable from analogy with the silver medallions found in the graves that they belong to the same period.

The illustrations of Plate XLVI show an interesting series of chariot models which were found just below the surface of mound "A." They were the toys of children by whom the mound covering the deserted palace was used as a playground. Like the child of the present day, the Sumerian child delighted in anything that ran on wheels. He no doubt took as much pleasure in these simple toys as a modern child takes in his more elaborate mechanical ones. Besides the sentimental interest attached to these objects of the past, they are of extreme value as showing that chariots of this type were used in warfare about 3000 B.C. They

were probably copied with as much fidelity as possible. It is obvious that the better-finished chariots were made by adults, for the work is too good to be that of a child. On the other hand, some of the objects are but roughly made, and could therefore be the work of children. All were made of clay and exceedingly well-baked. Not one example shows any signs of having been moulded; they are all entirely hand-made. Perhaps the most interesting is Fig. 3. It is 10 cm high, made of yellowish clay and well-baked. The upper portion is surmounted by the head and neck of an animal which it is very difficult to identify; but the head appears to resemble a ram more than anything else. In front of the neck is a lug perforated with a small hole to take a string by which the object could be pulled along. The body of the animal is represented as barrel-shaped, but unfortunately the greater part is missing. To reduce the weight the body is hollow. At the base of the body close to the front are the broken remains of a long lug at right angles to the body to take the axle for a pair of wheels. A similar lug doubtless existed at the back of the animal for another pair (Reg. No. 1533; Baghdad). Figs. 5 and 7 can be compared with the object just described. These two photographs are of the same object, but one in it has been slightly tilted to show its hollow interior. Obviously this is the model of an animal's body covered with long hair or fleece, indicated by lines roughly scratched with a sharp point. A line along the middle of the top of the body evidently represents a parting from which the hair or fleece hangs down on either side. On the front of the chariot is a shield marked with two oblique lines set close together. The base of the shield is considerably thickened to form a box for the axle. At the top of the shield there are two notches, evidently intended to take a pair of reins. There is a hole for the shaft a little below the middle of the shield (Reg. No. 958; Oxford). The other chariots shown in Figs. 1, 2, 4, and 7 (except the one in the right-hand lower corner of Fig. 1) are evidently modifications of the two chariots just described. They range in size from 5 cm in length to one which is 7.70 cm long and 10.60 cm high. The resemblance to an animal is disappearing in these examples; they are more like saddles on wheels. Indeed they closely resemble the native saddles used for horses in Mesopotamia at the present day (Reg. Nos. 2606; Field. 2574; Field. 2923B; Field. 2808; Field. 795; Baghdad. 1404; Field. 1412; Field. 1311; Oxford).

There is yet no information as to when the chariot was introduced into Babylonia. It may have been invented in that country, or was introduced from abroad. From a study of these objects found at Kish I am inclined to think that the chariot was a local invention, as all the stages from archaic forms to well-designed vehicles are found here. It would appear, as in other countries, that an animal was early used for riding, whether the horse or some other kind of quadruped. When the wheel was invented, a model of the animal generally ridden was placed on wheels, the head being retained at first and later replaced by the wider and more protective shield. In course of time, the vehicle ceases to retain any of the characteristics of an animal and becomes, as it were, a saddle upon wheels. From this time onward, the idea of sitting inside instead of upon the saddle would gradually be evolved, and we find the type of vehicle represented in the

right-hand lower corner of Fig. 1 (Reg. No. 2923D; Field). This chariot is of cart-like form and has four wheels, but two wheels were also used as in Fig. 6. That these two chariots were intended to carry passengers rather than material is proved by the presence of a step at the back, that they might be entered easily. The chariot shown in Fig. 6 is 6.40 cm long, 7.30 cm high, and 4.50 mm wide. It is perfect, except for the fact that the two wheels belong to another chariot. The shield in front has a pair of holes for the reins, and there is also a hole for a shaft or pole, showing that two animals were required to draw the vehicle. A narrow seat is provided for the driver at the back of the box-like body, to which the above-mentioned step permits of easy ascent (Reg. No. 1122; Field). These same features are found in the chariot in Figs. 8-9, which, however, is in some respects still more elaborate (Reg. No. 2015; Oxford). The upper edge of the shield-like front has, unfortunately, been partially broken away; but enough remains to show that the reins were passed through it as in Fig. 6. On the left-hand side of this shield there is a quiver for arrows in two compartments, and that the quivers were lashed on in chariots actually in use is suggested by the strip of clay which secures the quiver in this model. The seat for the driver is of ample width, and forms a cover beneath which things might be stowed away. Again, there is a suggestion of a step behind. The four wheels do not actually belong to this model, but are selected from a number of these found in the mound. Judging from the great number of the wheels found, the chariot must have been an extremely popular toy in ancient Kish.

The earliest example of a chariot found in sculpture in Mesopotamia is a representation of Eannatum in his war-chariot pursuing his enemies (about 3000 B.C). Unfortunately, this scene is very fragmentary, and only the upper portion of the chariot is shown. Enough remains to show that it was very similar in appearance to the model in Fig. 6 and that a quiver was attached.[57] It is much to be regretted that nothing is left of the animals that drew the chariot. The Sumerians called the chariot GISH GIGIR, the prefix GISH denoting that the object in question was made of wood. The animals first employed for draught work were probably asses—an animal well-known to the Sumerians from the earliest times. It is probable, however, that the horse was also known, for two models in clay strongly suggesting the horse were found in the "A" mound, and they are clearly of the same date as the chariots. In a seal of early Assyrian date which shows a two-wheeled chariot of ordinary form, except that each wheel has four spokes, the draught animal strongly resembles a bull.[58] This is reminiscent of the use of oxen for traction in India and elsewhere; in India they are said even to be capable of trotting for considerable distances. The name for a chariot in Assyrian is NARKABAT, and in Egyptian, MARKABATA, the latter being borrowed from the former. Neither the chariot nor the horse is mentioned in Egypt before the Hyksos invasion, and it is said that they were introduced there from Western Asia, having originally been brought from Iran.[59] These vehicles were probably very cumbersome, and their mobility was not improved by employing the use of a pair of animals to draw them. This, however, was doubtless necessary owing to the softness of the ground over which they traveled. One of these pottery wheels

was found in the filling of grave 127 and on a level with the bones. It did not, however, belong to the grave, which was undisturbed, and must have been thrown in with the filling—a proof that the wheel was of the same or even earlier date than the graves.

The two pieces of moulding with a design of overlapping seals or petals shown in Plate XLVI, Fig. 4A, are made of pottery. The first was found .50 m below the surface at the summit of mound "A," and is 1.50 cm thick (Reg. No. 2526; Field). The other piece is 1.90 cm thick, and was found close to the top of the footing of courtyard 6 at a depth of 2 m below the surface of the upper part of the mound (Reg. No. 2755; Oxford). Both pieces of pottery are exceptionally well-made and are cut, not moulded. The back is flat in each case, and they seem to be part of the decoration of a wall, for they are too large to be parts of a dress of a statue. From the great depth at which the second piece was found it would seem that they once formed part of the decoration of the palace.

A primitive pottery figure appears in Plate XLVII, Fig. 1, with pinched nose and flat round pellets for eyes. The mouth is just indicated. It is wearing a rolled turban over what appears to be a wig. The arms are roughly made, and were never complete; the lower portion of the body is wanting. This figure is 8.10 cm high and 7.40 cm wide. It was found .50 m below the surface of filling of chamber 52 of the palace (Reg. No. 1622; Field). Fig. 2 of this plate represents a baked pottery figure of a monkey sitting with his legs crossed. Two round pellets of clay were added to represent the eyes, but nose, mouth, and ears are modelled. There is a beard a portion of which is wanting, and the hair is parted along the middle of the top of the head. This figure is 7.10 cm high. It was found 40 cm below ground, and presumably belongs to the period of the graves (Reg. No. 1623; Oxford). Fig. 3 is also of baked clay and fragmentary, being now 58 cm high. It may represent a horse or donkey, for there is a mane between the ears and partly down the back. It is evidently a child's toy, but made by someone with experience in modelling. It was taken 1 m below the surface of the mound (Reg. No. 2199; Field). The baked clay model (Fig. 4) is 6.60 cm long. Its ears and tail suggest a dog, and there is a hole through the nose for a cord with which to pull it along. The level at which it was found was not ascertained (Reg. No. 1323; Baghdad). Fig. 5 of Plate XLVII is 48 cm high, and stands upright with arms and legs outspread. It is the second figure of a man found; but it is roughly made, and the only recognizable feature in its face is the nose. This was discovered in a debris-filled chamber and probably belongs to the same period as the graves (Reg. No. 2357; Field). Fig. 6 is 8.60 cm long from nose to tail, and was found close to and outside the foundations of the walling marked in the skeleton plan of the palace. It represents either a donkey or a horse, the latter being the more probable, or a plumed tail is indicated. The thick mane over the neck should be noticed. The nose is bored through to take a cord. This pottery animal may have been used with a chariot model (Reg. No. 2369; Field). Fig. 7 obviously represents a ram, and is a well-modelled figure in excellent condition. It is 4.20 cm long, and was found 2 m below the surface at the summit of the mound (Reg. No. 2471; Field).

Of the two pottery models in Plate XLVII, Fig. 9, the one on the left represents a bird, probably a pigeon, and is 6.70 cm high. It is well-modelled and of solid clay. The feathers and wings are roughly represented by inside lines, and the eyes are formed of pellets of clay. This model was found at a depth of 2 m on the southern side of the mound, and presumably belongs to the same period as the burials (Reg. No. 1030; Oxford). The figure on the right was found at some depth on the southern slope of the mound, and is 4.60 cm long. It apparently represents a hedgehog or pig whose spines or bristles are indicated by a few incised lines on the back (Reg. No. 1114). The upper figure in Plate XLVII, No. 10, represents a bird 43 cm high. The legs form a round plinth whose base is slightly hollow. The head is slightly chipped, but the figure is otherwise perfect. It is made of somewhat coarsely modelled pottery and is hollow with a pellet inside to make it rattle. It was found 3 cm below the surface above chamber 9 of the palace (Reg. No. 2699; Oxford). The figure below it is a model of an unusually well-nourished ram whose fleece is represented by incised markings down the sides of the body, springing from a parting along the middle of the back. The eyes are incised. The animal is hollow and rattles when shaken, so there can be no doubt that it was a child's toy. It is 9.80 cm long, 6.95 cm high, and was found 40 cm below the surface of the highest portion of mound "A" (Reg. No. 2384; Field).

In Plate XLVII, Fig. 11, are seen two models undoubtedly intended to represent horses. The upper one was picked up on the mound by one of the basket-boys who said he found it on the surface of the ground. The thick, plumed tail and the forelock and mane are obviously those of a horse (Reg. No. 2925; Oxford). The lower figure is 6.60 cm in length, and its long head and mane, short ears, and thick tail also prove it to be a horse. It was found in the small room enclosed by the walling at the top of and in the centre of the mound and therefore almost certainly belongs to the period of the graves (Reg. No. 2129; Field).

NOTES

[1] On the archaeology and mythology of the seals, see the writer's Excavations at Kish, pp. 79-85.

[2] LANGDON, Babylonian Wisdom, p. 79.

[3] LANGDON, Oxford Editions of Cuneiform Texts, Vol. II.

[4] Plate XXIV, Fig. 2, shows this valley clearly. The dump in the foreground is a portion of the "A" mound.

[5] The word Mesopotamia is to be interpreted in its widest sense.

[6] For a discussion of this name, see LANGDON, Excavations at Kish, chap. iii.

[7] DE GENOUILLAC, Premières recherches archéologiques à Kich, p. 28.

[8] The mean Magnetic Declination for the neighborhood of Hillah in September, 1921, was 2° 30′ E. The annual change is about +7′ or 8′, so that in December 1923 it was 2° 44′ E. (approx).

[9] This is a drawing by Botta of a sculptured scene recovered from the palace of Sargon II at Khorsabad.

[10] A pavement of a similar thickness has been found in another portion of the palace (chamber 45). It was probably difficult to bring earth in from the outside to level a floor, and instead, the thickness of the paving was increased in places to level up the sunken portions.

[11] Those paved with unburnt bricks may have been robbed of a layer of burnt brick.

[12] A passage of this description paved with mud brick, if open to the sky, would become a morass in wet weather. It is possible, but improbable, that this passage was once removed for other purposes. It should be remembered, however, that it is very difficult to remove a burnt-brick paving, however loosely it may be set, without leaving traces behind.

[13] LANGDON, Oxford Editions of Cuneiform Texts, Vol. II, p. 14.

[14] It should be remembered, however, that only the lower parts of the walls remain and that the weight of the walling above would have consolidated the lower portions.

[15] See Plate XXXII, Fig. 1, for illustrations of burnt bricks found in the palace. The brick on the immediate left is one that had been accidentally burnt in the firing of the palace. It shows the extreme convexity of the sun-dried bricks as compared with those that were baked.

[16] Pottery of the same shape and material was recovered from a Greek burial close by.

[17] Exactly similar furnaces have been found at Nippur. See FISHER, Excavations at Nippur, Plate XIII, and MEISSNER, Babylonien und Assyrien, p. 234 and Fig. 96. I do not agree on the point that the material to be baked was placed on the floor of the furnace as represented in Fisher's diagrams. In the furnaces found at Kish, the floor space of 3.70 x 75 m would hardly be sufficient to contain much pottery.

[18] The absence of pottery and other objects is perhaps connected with the fact that so many of the chambers were robbed of their burnt-brick pavements.

[19] The same kind of cue is worn by the god Ningirsu in the Stele of the Vultures. Also compare two statues found by Andrae in the H and G temple at Assur. Frankfort (Studies in Early Pottery of the Near East, pt. 1, pp. 88-89, Royal Anthropological Institute) suggests North Syria or Anatolia as possible sources of these cues.

[20] The arrangement of the beard and the technique of the cheek-bones are reminiscent of the god Ningirsu on the Stele of the Vultures, though the plaque in question is more primitive in type.

[21] *Antiquaries' Journal*, Vol. IV, Plate XLIV, Fig. 4.

[22] For an illustration of a somewhat similar design in spirals see HANDCOCK, Mesopotamian Archaeology, p. 189. The object bearing the design is made of a mixture of clay and bitumen, and was found in the neighborhood of a building whose bricks bore the name of Entemena.

[23] Excavations at Kish, chap. x.

[24] HILPRECHT, Explorations, pp. 474-475; also HANDCOCK, Mesopotamian Archaeology, p. 182.

[25] La Stèle des Vautours, Plate II. In the same scene, but above it, the king is carrying a staff or wand of a straighter form, but, unfortunately, part of this is broken.

[26] For a similar figure, but of larger size, see HANDCOCK, Mesopotamian Archaeology, p. 234.

[27] Amen-em-heb, who accompanied Tutmosis III into Syria (about 1470 B.C.), speaks of that king's hunting a hundred and twenty elephants in the land of Niy for the sake of their tusks (*Zeitschrift Aeg. Sprache*, Vol. XI, p. 63).

[28] Meanwhile three of these cups have been restored in Field Museum. See LAUFER, Ostrich Egg-shell Cups of Mesopotamia and the Ostrich in Ancient and Modern Times (Field Museum, Anthropology, Leaflet 23, 1926).

[29] A species of Triton. A shell beaker very similar to the one illustrated, but with added ornamentation in the shape of figures of a monkey, a dog's head and a ram's head, found at Qau in Egypt and dated to the VIth dynasty. Ancient Egypt, pt. 2, 1924, p. 37.

[30] LANGDON, Excavations at Kish. Appendix by H. Dudley Buxton.

[31] A very similar dish to one of these has been found at Susa (Mémoires de la Délégation en Perse, Vol. XIII, Plate XLIV, Fig. 4).

[32] Both comb work and single line decoration are found on jars in burials 40, 47, 97, and 154, in each of which there were two handled jars.

[33] It is possible that these represent the stitching in leather work.

[34] A seven-toothed comb was used in the decoration of the jar found in burial 78, and on a jar from burial 126 a ten-toothed comb was used.

[35] In drawing the illustrations, it was impossible on account of the reduced scale to indicate the exact number of lines on some of the jars without creating confusion, and a smaller number was, therefore, drawn.

[36] ANDRAE, Die archaischen Ischtar-Tempel in Assur, p. 40, Fig. 16.

[37] OBERMAIER, Der Mensch der Vorzeit, p. 529, Fig. 346.

[38] La Stèle des Vautours, Plate XI.

[39] On the other hand, the square or rectangular shanks of some of the weapons and tools would by reason of their shape fit more tightly in a round aperture than a rounded shank would do. The edges of the shank would effectually prevent any tendency to twist or turn.

[40] It is interesting to note that knobkerries made by providing a short staff with a bitumen head are commonly carried and used by the present inhabitants of Mesopotamia. Practically every Arab has or carries one.

[41] Compare these two battle axes with one found in Central Syria (PETRIE, Tools and Weapons, Plate LXXIV, No. 95).

[42] NEWBERRY, Beni-Hassan, I-IV. A socketed axe is carried by a Syrian in a tomb scene of the XIIth dynasty (PETRIE, Tools and Weapons, Plate VI, No. 174).

[43] PETRIE, Tools and Weapons, Plate XV, No. 57.

[44] La Stèle des Vautours, Plate XI.

[45] Catalogue, p. 389; also HANDCOCK, Mesopotamian Archaeology, p. 310, Fig. 78.

[46] Compare also the weapon held in the hand of a figure of Gilgamesh found at Khorsabad (GRESSMAN, Texte und Bilder, p. 109, Fig. 225).

[47] Allowing for the length of this rivet and the thickness of the blades, each 2 mm, the total thickness of the implement would be about 11 mm. No hole to fit this rivet was to be found in the corresponding blade, but the apparent absence of one cannot be accounted for by corrosion; the patina so formed would have filled the hole. These particular blades are illustrated in Plate XXXIX, No. 6, at the bottom of the illustration.

[48] The scimitar was not known in Egypt until Hyksos times. It is possible that this again was a Babylonian invention (PETRIE, Tools and Weapons, Note E 23). There is an Assyrian scimitar in the British Museum, dated 1300 B.C., which has a double curve.

[49] BANKS, Bismya, p. 309.

[50] Tools and Weapons, p. 51.

[51] Stamp seals of a similar type were found at Susa and dated to the end of Period I (Mémoires de la Délégation en Perse, Vol. XIII, p. 60).

[52] It should be remembered that in every case the impression of the seal is being considered, not the seal itself.

[53] A very similar scene to this one was found at Bismya (BANKS, Bismya, p. 275). It probably represents a man ploughing, and the same scene, a man holding the tail of his animal and goading it on may be seen in Iraq at the present day.

[54] Die archaischen Ischtar-Tempel in Assur, Plate LX.

[55] A similar use was made of notched flints during the XIIth dynasty in Egypt. A piece of wood cut to represent a jaw-bone was found at Kahun, and notched flints had been inserted in the slotting of the inner edge with the aid of some bituminous composition. From the shape of this sickle it would appear that the archaic form of sickle in Egypt, at all events, was a jaw-bone with the teeth still in it (see PETRIE, Kahun).

[56] Mémoires de la Délégation en Perse, Vol. XIII, Plate XLIV, No. 4.

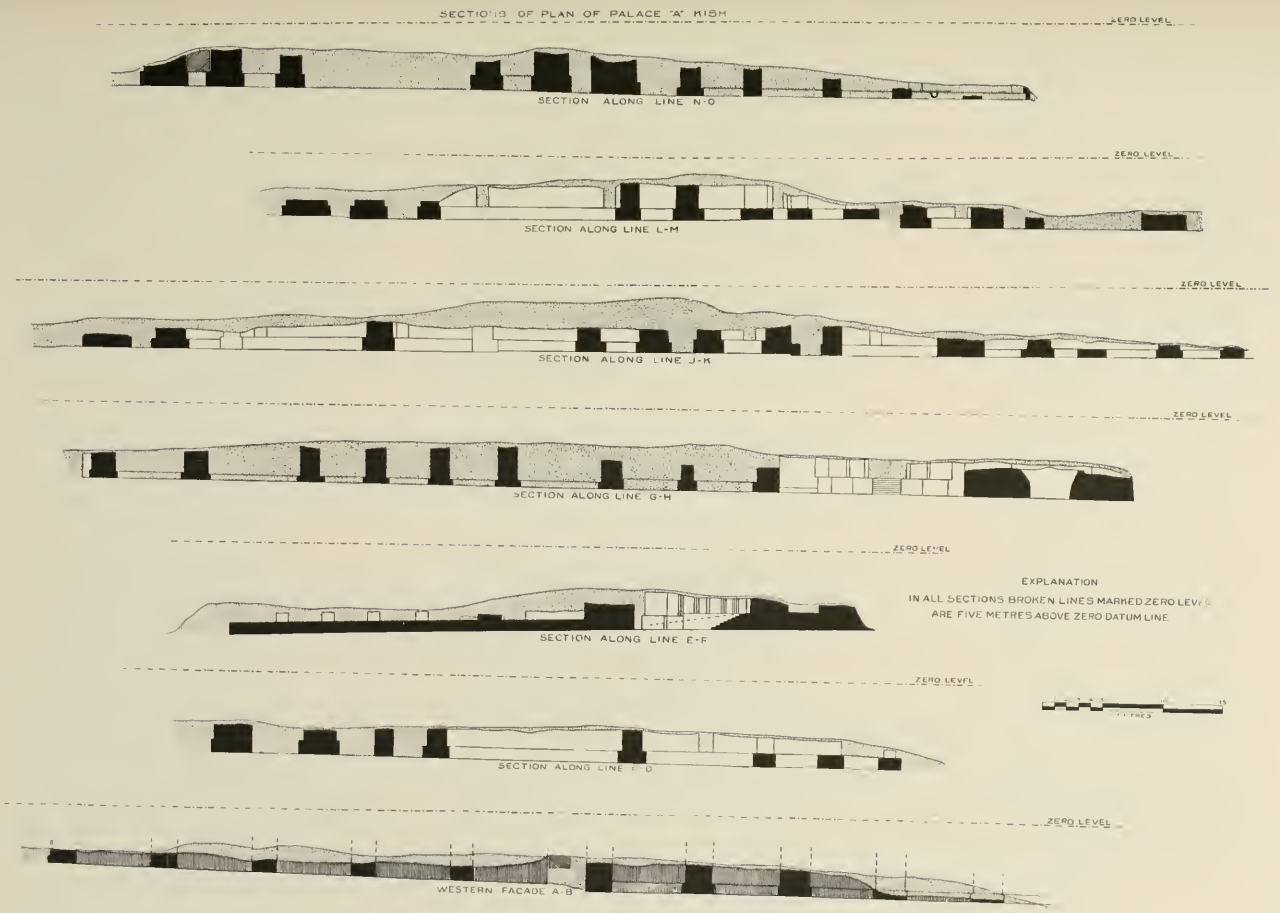
[57] La Stèle des Vautours (1909), Plate XI.

[58] HANDCOCK, Mesopotamian Archaeology, p. 305.

[59] HALL, Ancient History of the Near East, p. 213.

PLAN OF PALACE "A"

SKELETON PLAN OF PALACE SHOWING LATER BUILDINGS AND POSITIONS OF GRAVES.



SECTIONS OF PALACE "A" KISH.

PALACE "A" KISH.

1. VIEW OF EXCAVATIONS AT "A" MOUND FROM ZIGGURAT AT INGHARRA.

2. VIEW OF TWIN ZIGGURATS FROM "A" MOUND.

3. STAIRWAY OF PALACE "A" SHOWING LATER FLANKING WALL OF BURNT BRICK.

THE STAIRWAY OF PALACE "A" KISH.

1. STAIRWAY OF PALACE "A" FACING N. N. W.

2. STAIRWAY OF PALACE "A" FACING N. E.

3. RECESSED FLANKING TOWER FACING N. E.

THE COLONNADE OF PALACE "A" KISH.

1. COLONNADE OF PALACE FACING S. W.

2. COLONNADE OF PALACE SHOWING STAIRWAY IN DISTANCE FACING N. E.

3. PORTION OF FAÇADE OF PALACE SHOWING MOUNDS OF INGHARRA IN DISTANCE FACING N. N. E.

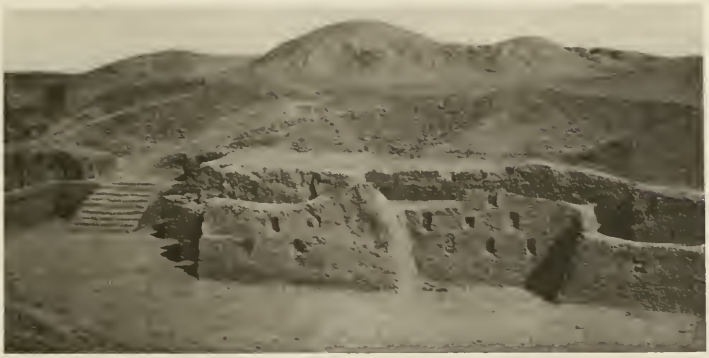
COLONNADE AND PILLARED HALL PALACE "A" KISH.

1. VIEW OF COLONNADE OF PALACE FACING S. S. E.

2. PILLARED HALL (NO. 45) FACING S. W.

3. PILLARED HALL SHOWING BASIN IN FOREGROUND FACING N. E.

COLONNADE AND PILLARED HALL OF PALACE "A" KISH.



1. BUTTRESS AGAINST FAÇADE OF PALACE.

2. BUTTRESS SHOWING ROUGHNESS OF WORK.

3. CLOSE-UP OF BUTTRESS SHOWING BRICK BLOCKING OF NICHES.

PARTIAL EXCAVATIONS OF PALACE "A" KISH.

1. PARTIAL CLEARANCE OF FAÇADE OF PALACE.

2. CLEARANCE OF COLONNADE AND CHAMBERS BEHIND PALACE.

3. STAIRWAY ENTRANCE TO PALACE IN PROCESS OF BEING CLEARED, SHOWING LATE WALLING-IN OF FOREGROUND.

VARIOUS CONSTRUCTIONS IN PALACE "A" KISH.

1. REMAINS OF BRICK KILN IN ONE OF NORTHERN CHAMBERS OF PALACE.

2. N. W. CORNER OF COURT 6 SHOWING ENGAGED COLUMN OR BUTTRESS.

3. OUTSIDE OF NORTH WALL OF PALACE SHOWING FOOTING AND BUTTRESSES FACING E. S. E.

VARIOUS CONSTRUCTIONS IN PALACE "A" KISH.

1. ENTRANCE OF ONE OF THREE KILNS ON WESTERN SIDE OF PALACE.

2. CHAMBER 30 SHOWING BRICK-PAVING AND VATS AT ONE END.

3. HEARTH IN CHAMBER 15.

DETAILS OF BRICKWORK.

1. BURNT BRICKS SHOWING BRICKMAKER'S MARKS.

2. PORTION OF A WALL SHOWING BRICKS LAID ON EDGE.

3. COLUMN MADE OF SPECIALLY MADE BRICKS.

4. PAVEMENT OF CHAMBER 45 SHOWING METHODS OF LAYING BRICKS.

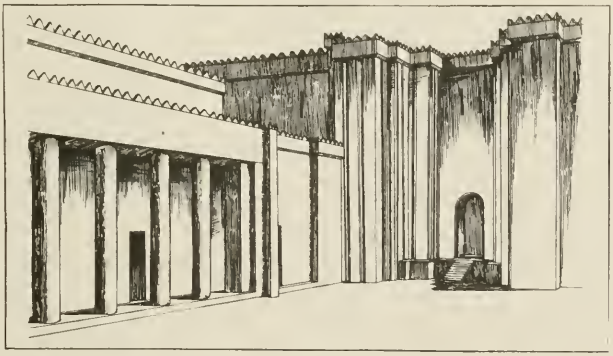
BUTTRESS IN ANNEX. EXCAVATION IN PROGRESS. PALACE "A" KISH.

1. BUTTRESS INSIDE OUTER WALL OF ANNEX.

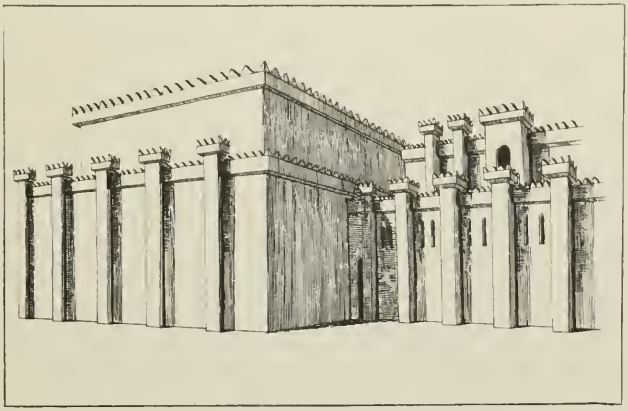
2. CLEARING THE COLONNADE.

3. MEN AT WORK CLEARING COURTYARD 6.

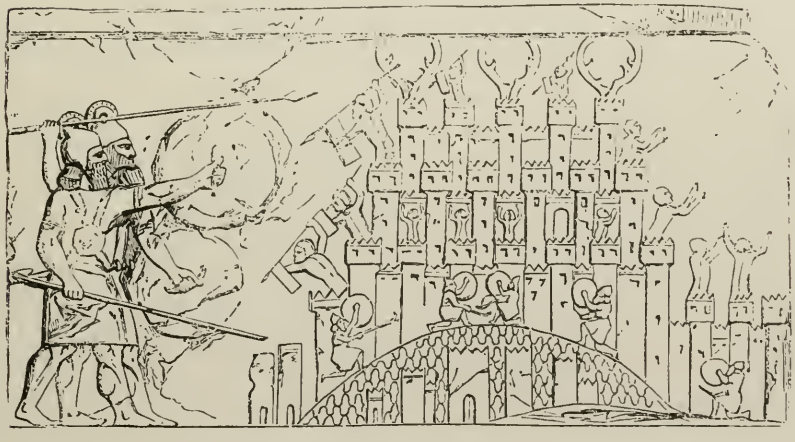
CONJECTURAL ELEVATIONS OF PALACE "A" KISH.



1. FAÇADES OF ANNEX AND EASTERN WING.



2. WESTERN SIDE OF PALACE.



3. ASSYRIAN SCULPTURE, KHORSABAD (AFTER BOTTA, PLATE 68).

1 1531

2 1501

3 1501

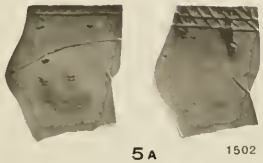
INLAYS FROM PALACE "A" KISH.

1 1502

2 1021 895 1364

3 1502

1502 4 1502

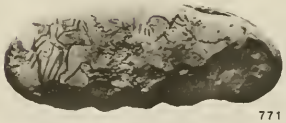


5A 1502

6 1502

7 1131

8 1131



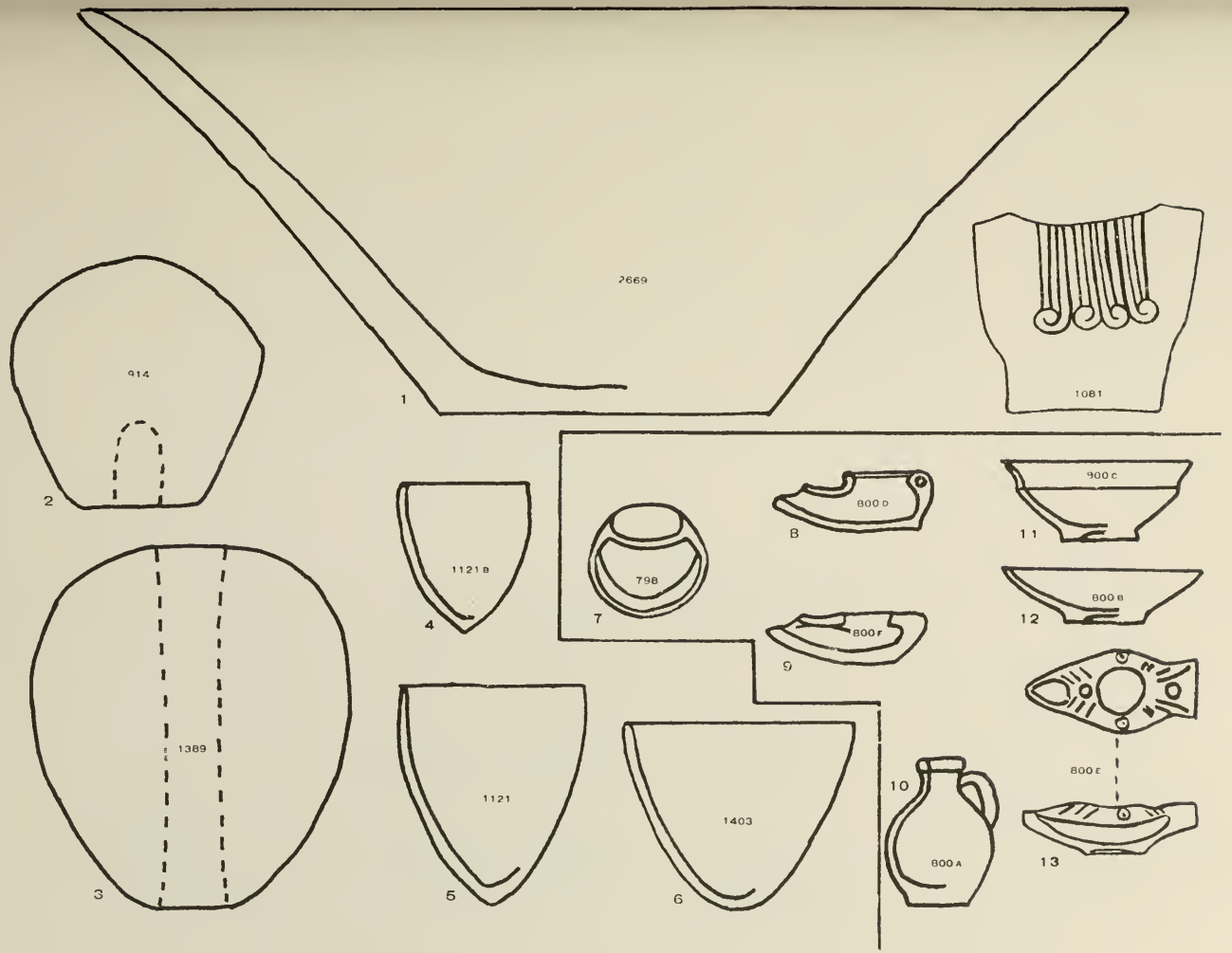
9 771

10 2410

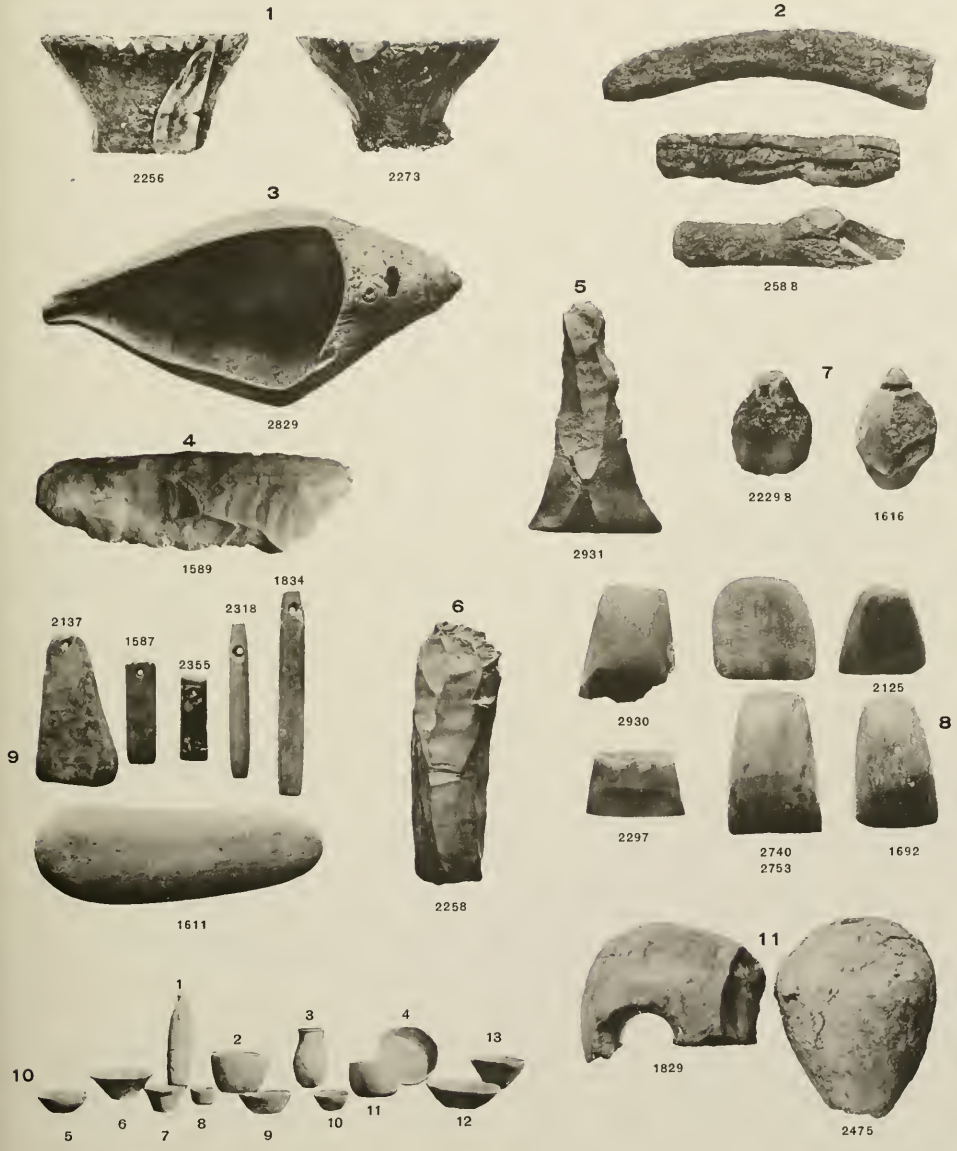
11 1037

12 2410

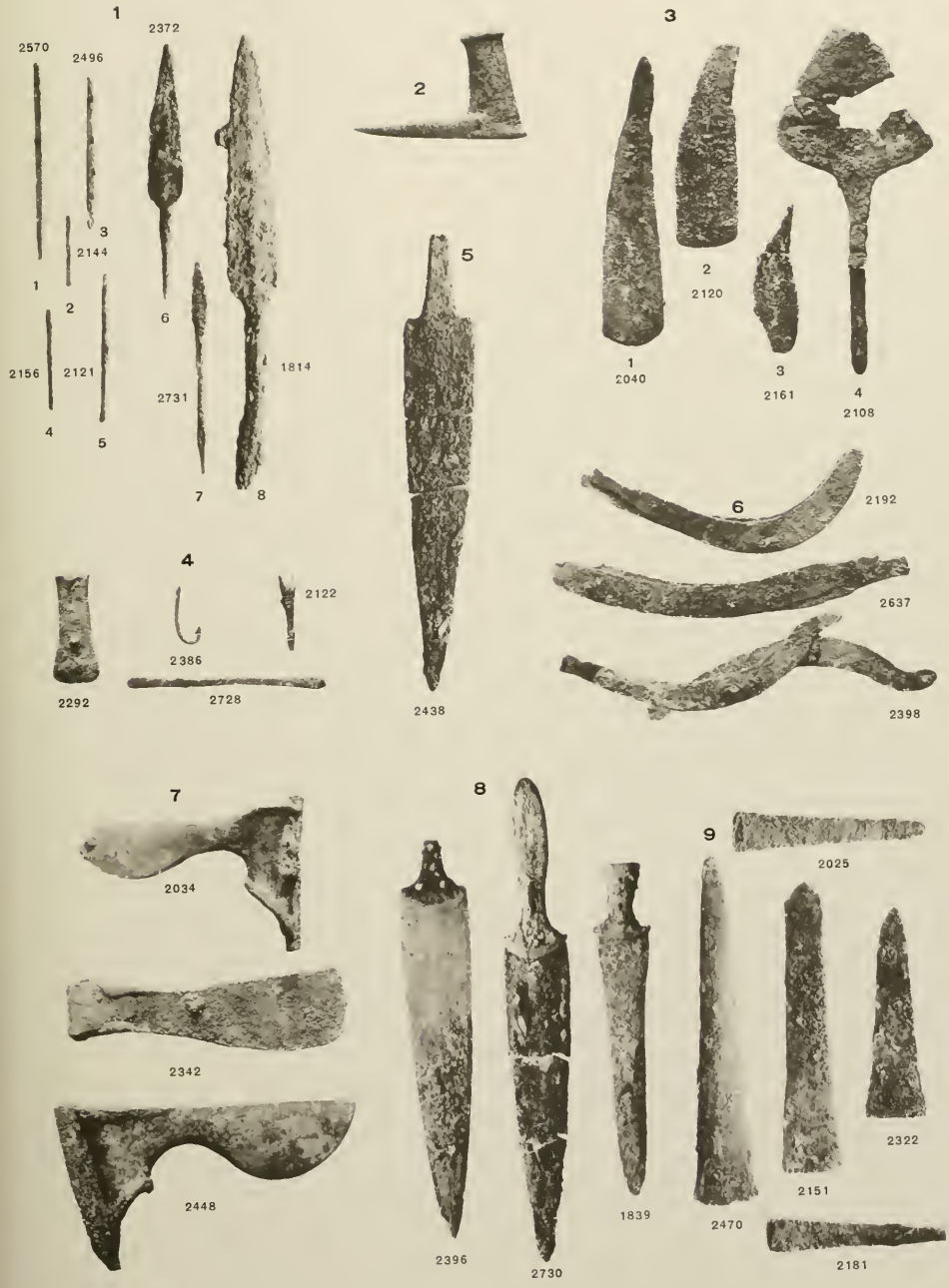
INLAY AND OBJECTS FROM PALACE "A" KISH.



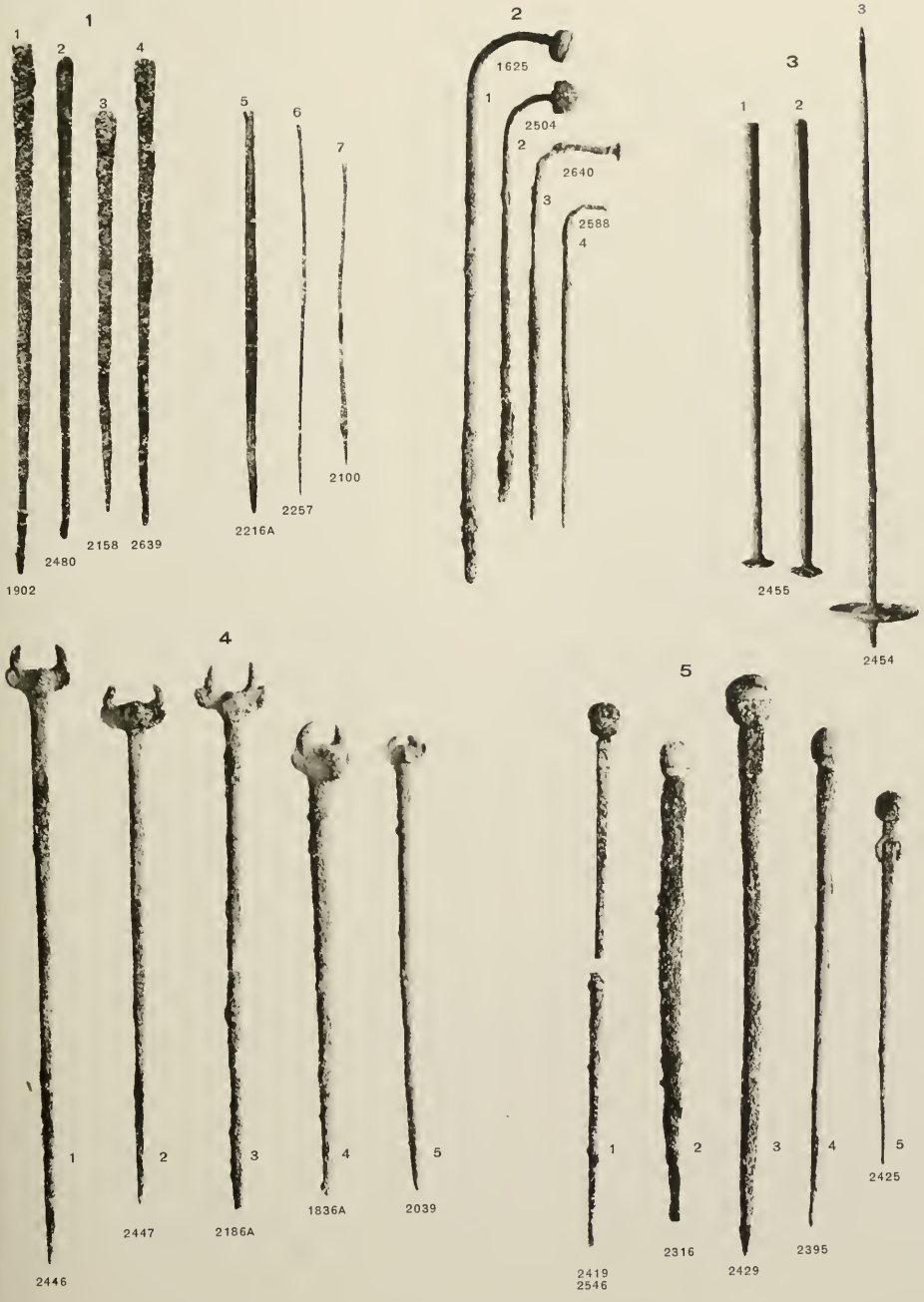
OBJECTS FROM PALACE "A" AND FROM GREEK BURIAL.



OBJECTS OF COPPER, SHELL, POTTERY, AND STONE FROM PALACE "A" AND FROM GRAVES.



COPPER TOOLS AND IMPLEMENTS FROM MOUND "A" AND FROM GRAVES.



COPPER HAIR-PINS, NEEDLES, AND SPINDLES FROM GRAVES IN MOUND "A".

1 2169

2 2400 A

3 2399

4 2697 B

5 2149

6 2038

7 2321

8 2558

9

10 2408

11 2249

12 2850 B

13 2190

14 2201

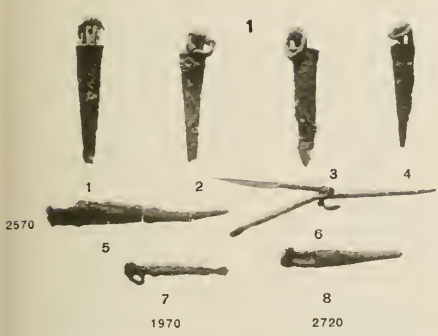
15 2385

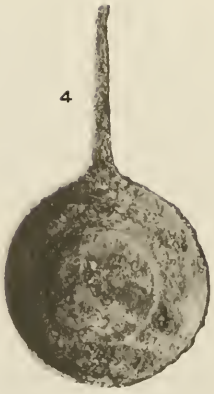
16 2312 A

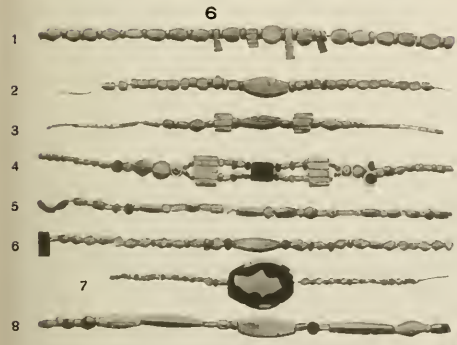
17 2172

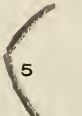
CYLINDER SEALS FROM MOUND "A" AND FROM GRAVES.

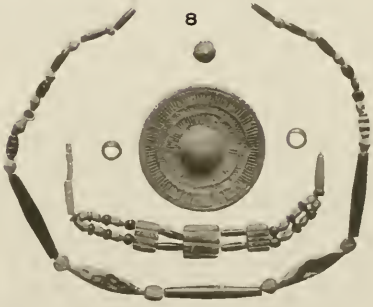
CYLINDER SEALS, STAMP SEALS, WEIGHTS, ETC. FROM PALACE "A" AND FROM GRAVES.

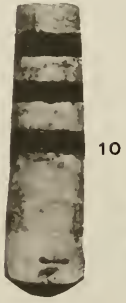






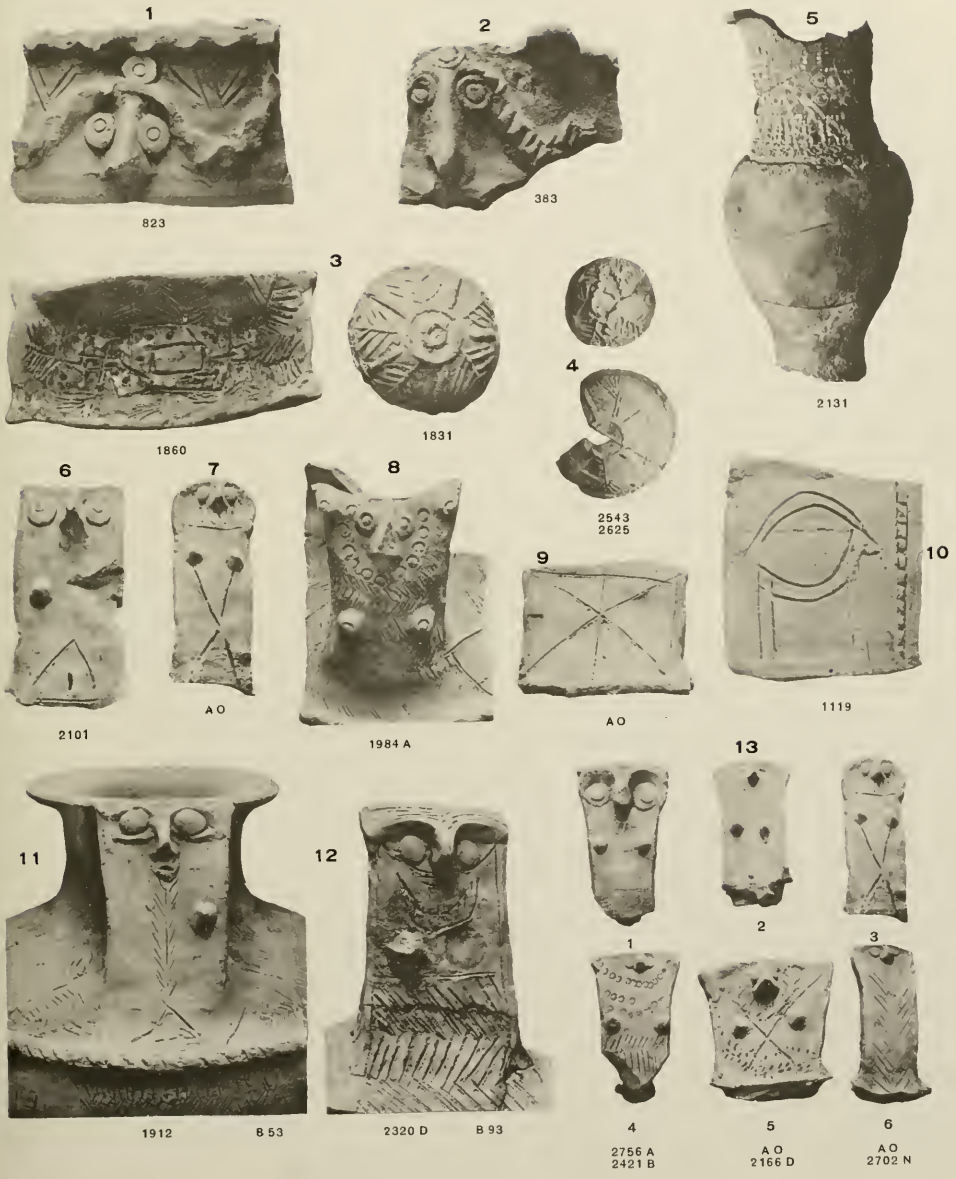






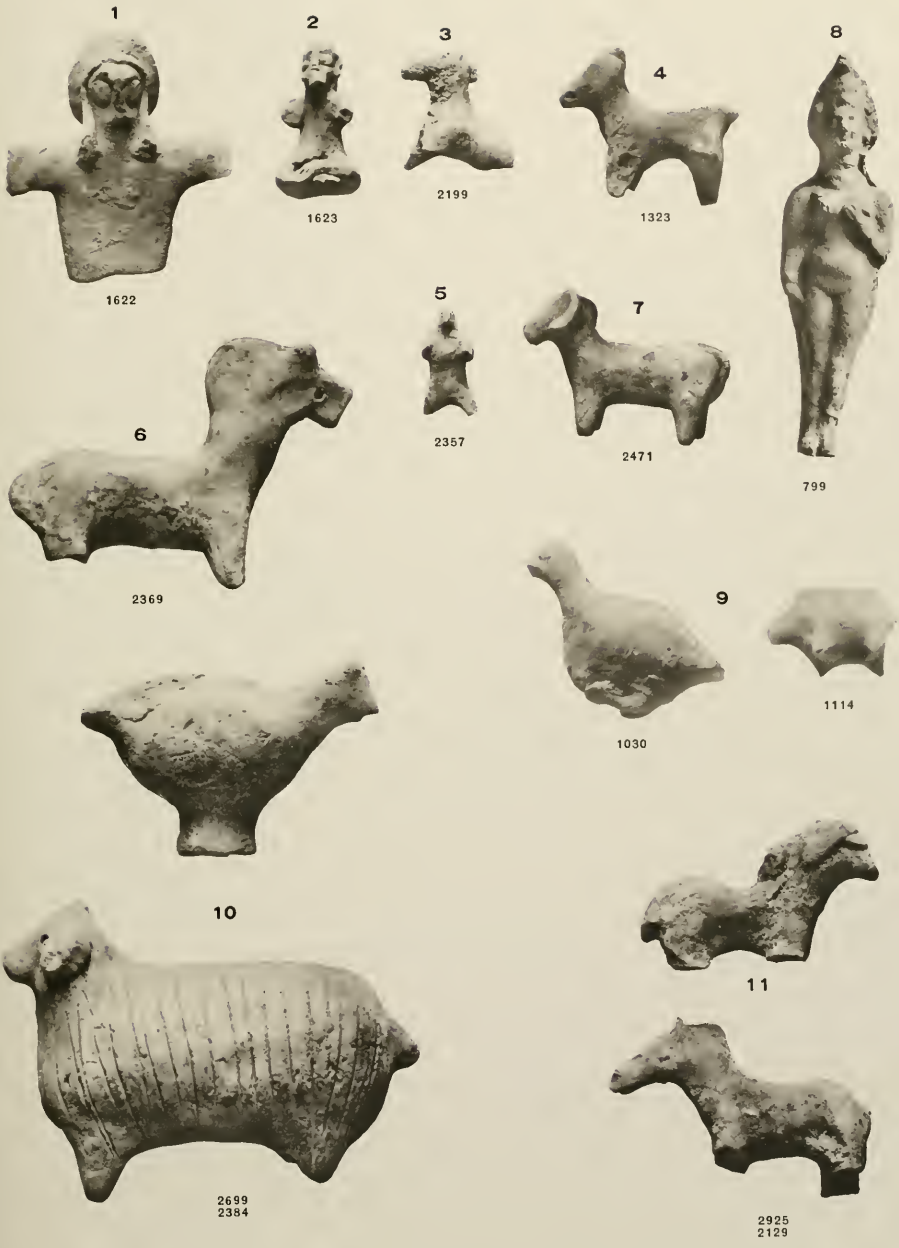
OBJECTS FROM MOUND "A" AND FROM GRAVES.

OBJECTS FROM MOUND "A" AND POTTERY FROM GRAVES.

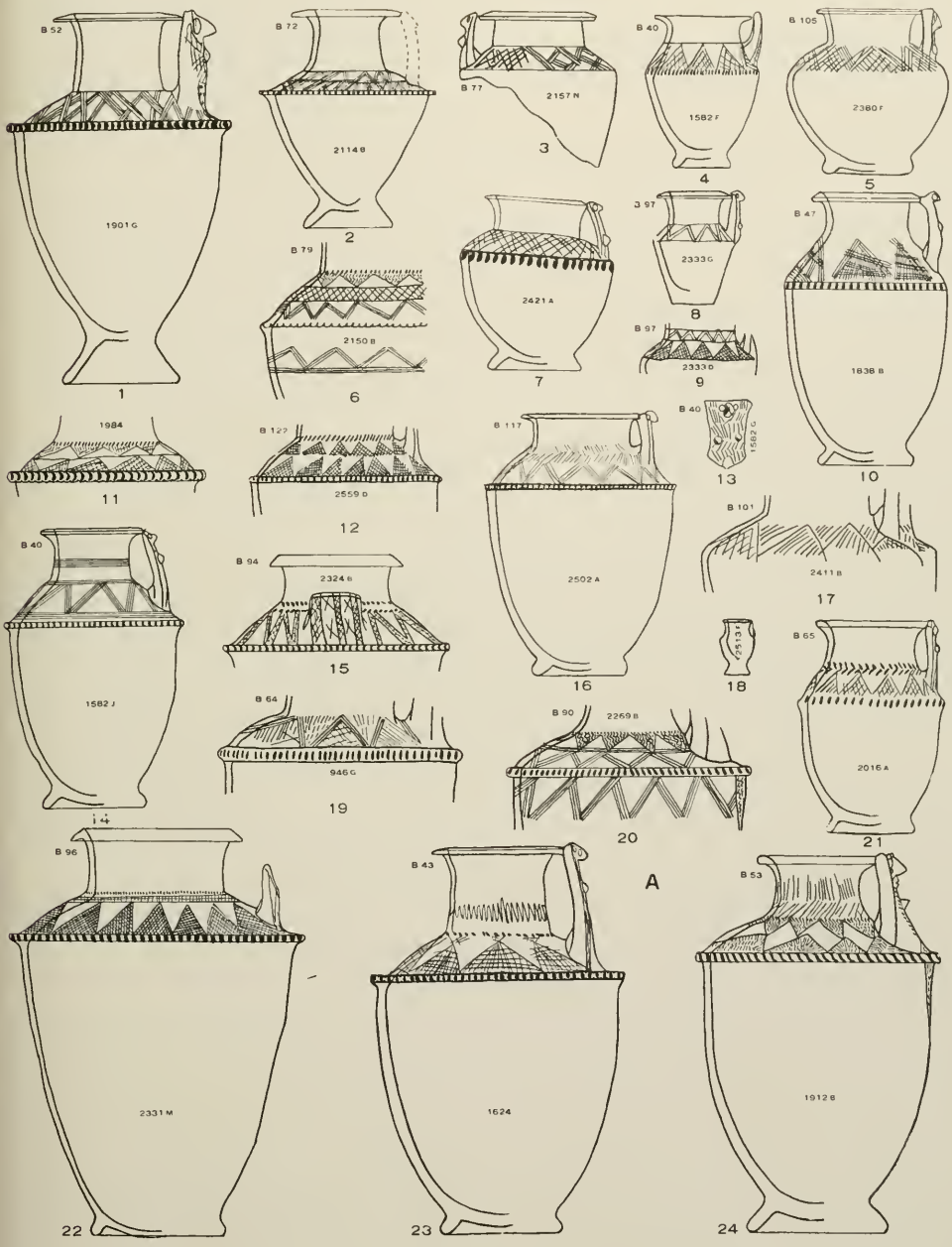


POTTERY AND POTTERY HANDLES FROM MOUND "A" AND FROM GRAVES.

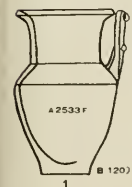
CHARIOT MODELS FROM MOUND "A"



POTTERY FIGURES FROM MOUND "A"



POTTERY TYPE A.



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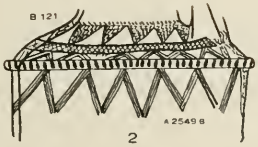

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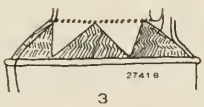
A



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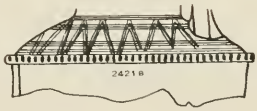

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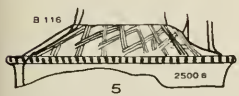

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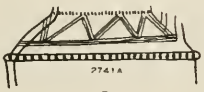

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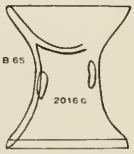

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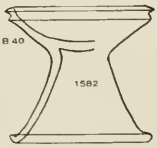

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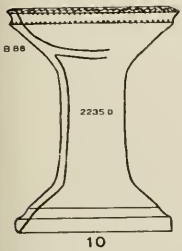

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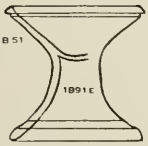

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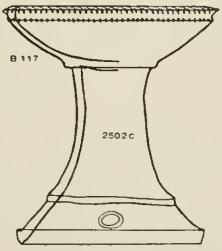

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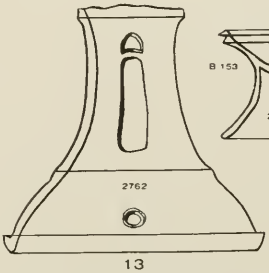

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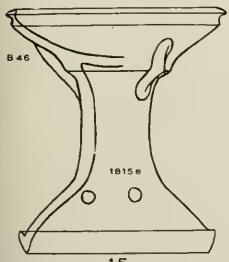

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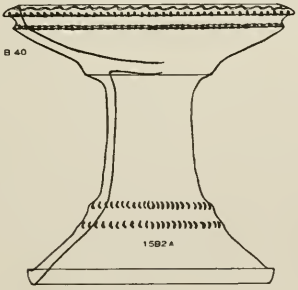

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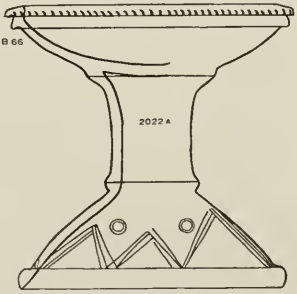

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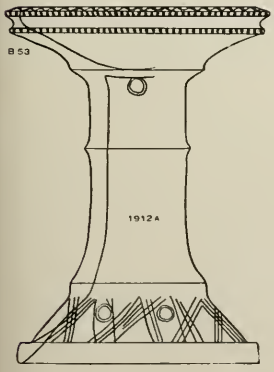

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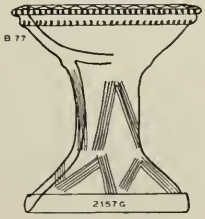

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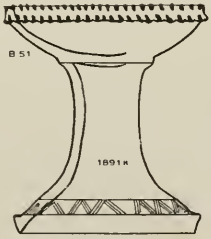

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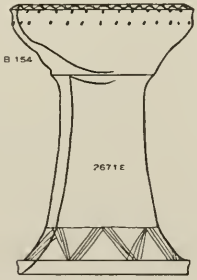
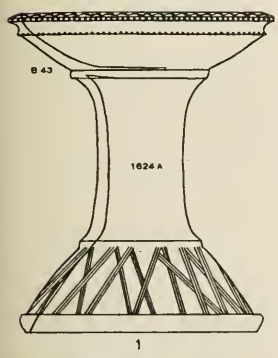


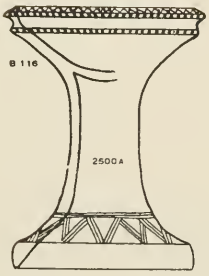
21

POTTERY TYPES A AND B.



1

B



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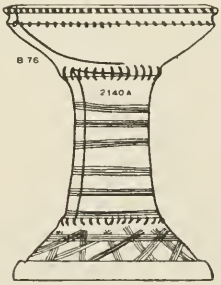

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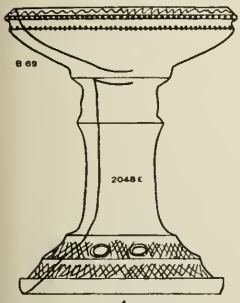

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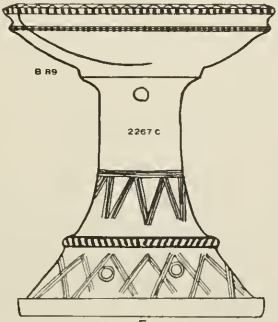

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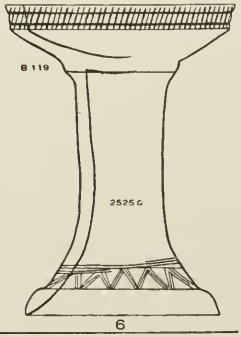

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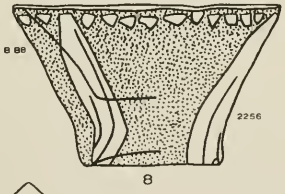

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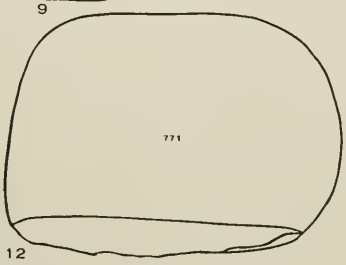
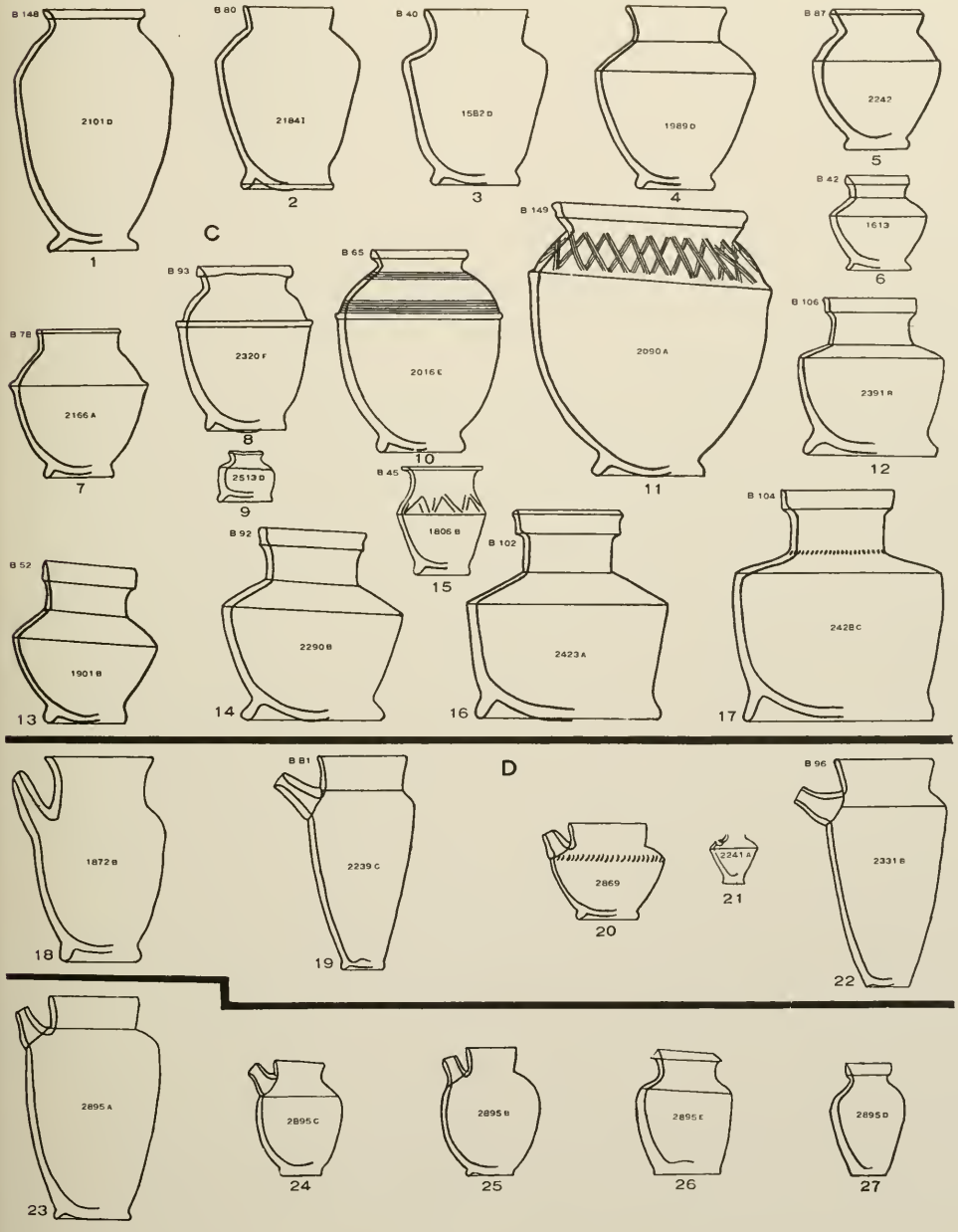


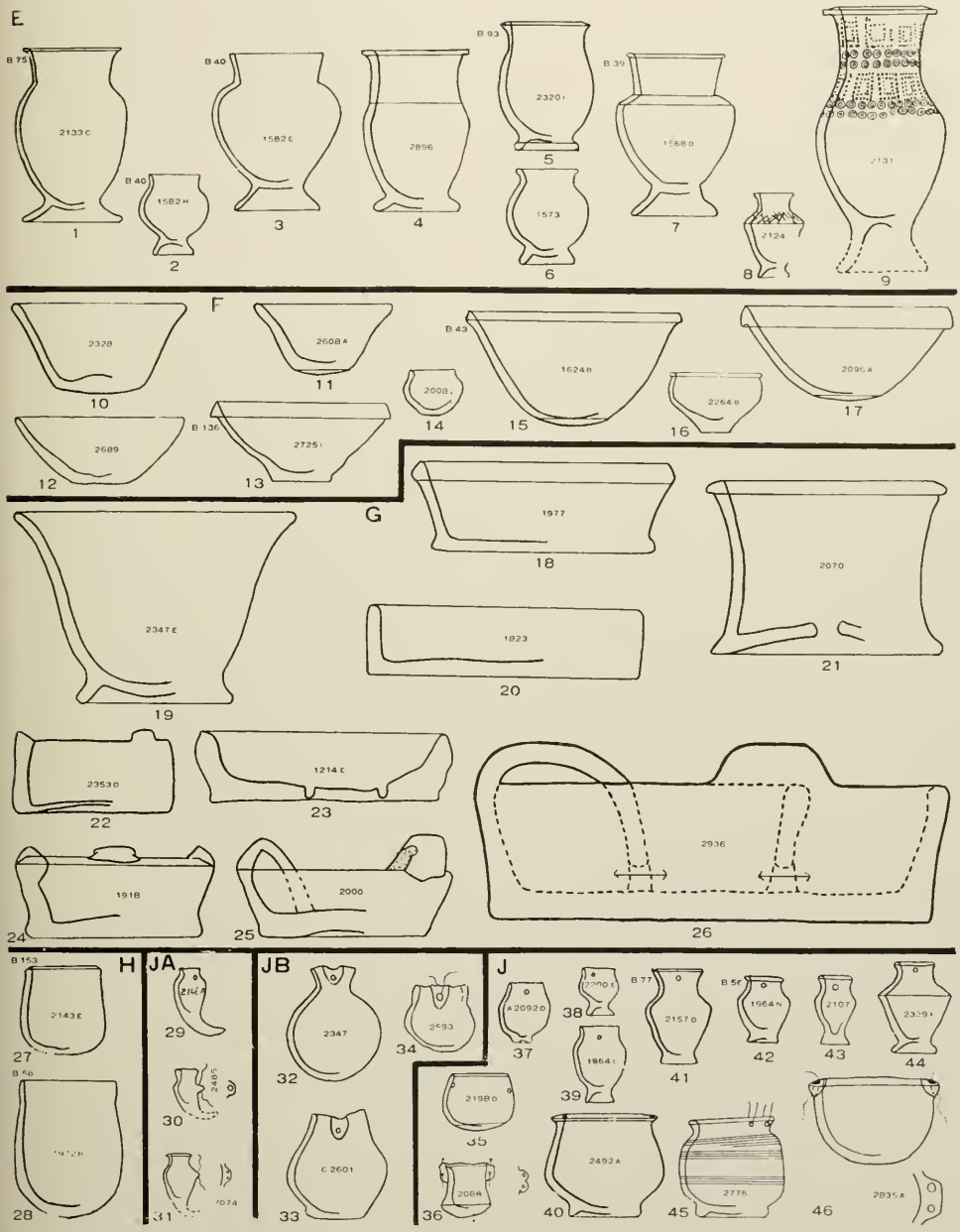
12

13

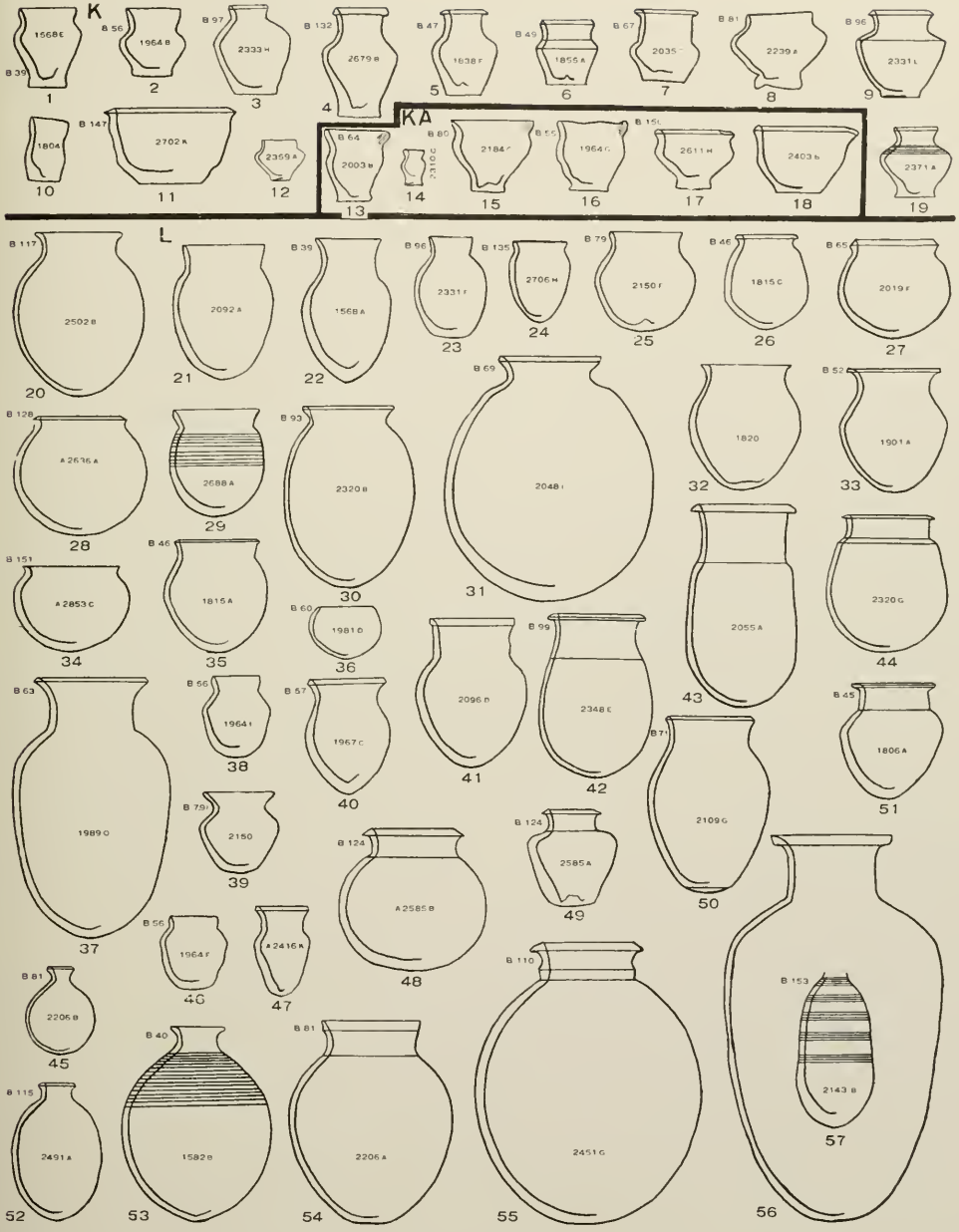
POTTERY TYPE B AND ORNAMENTED POTTERY.



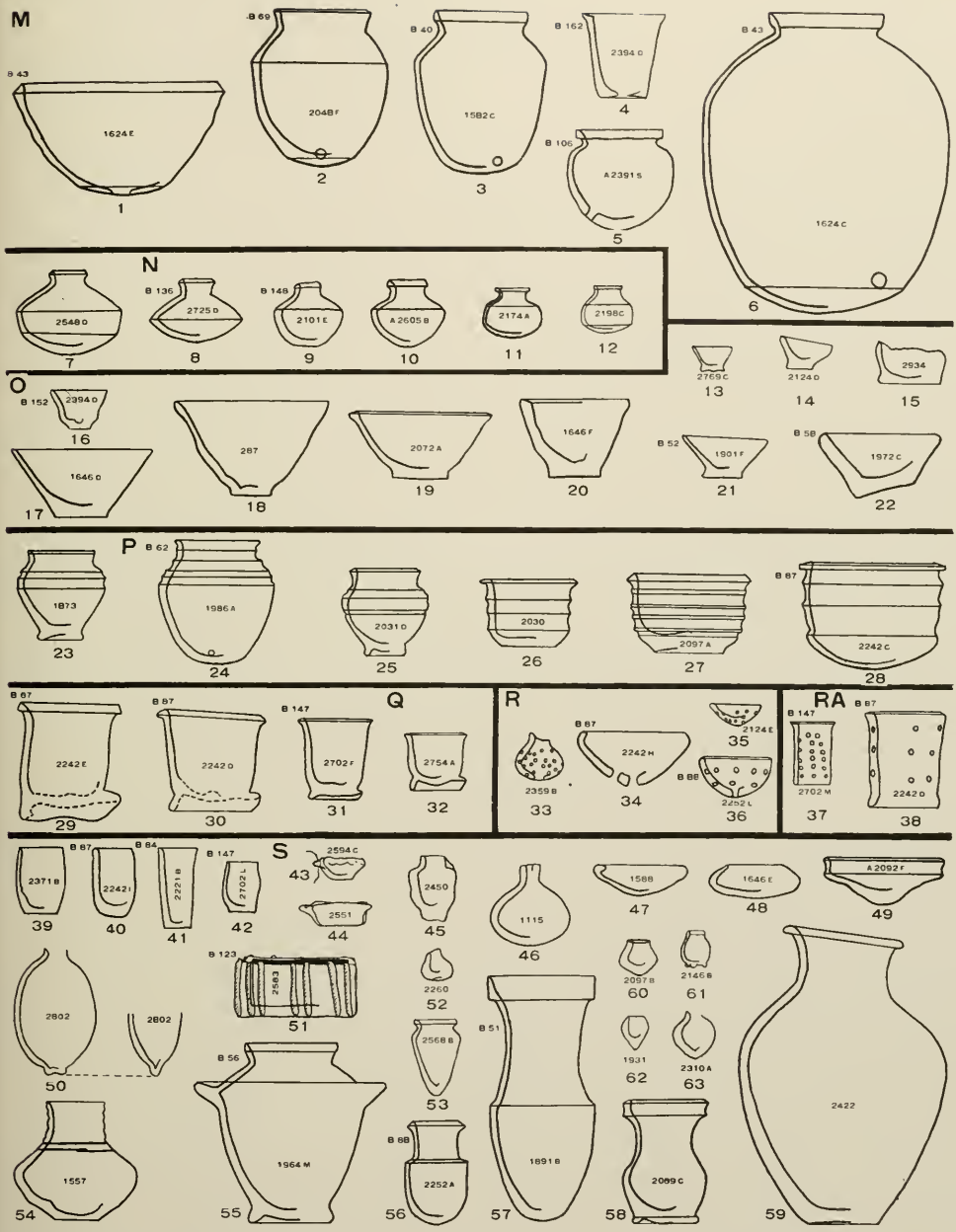
POTTERY TYPES C AND D.



POTTERY TYPES E, F, G, H, J, JA, AND J8.

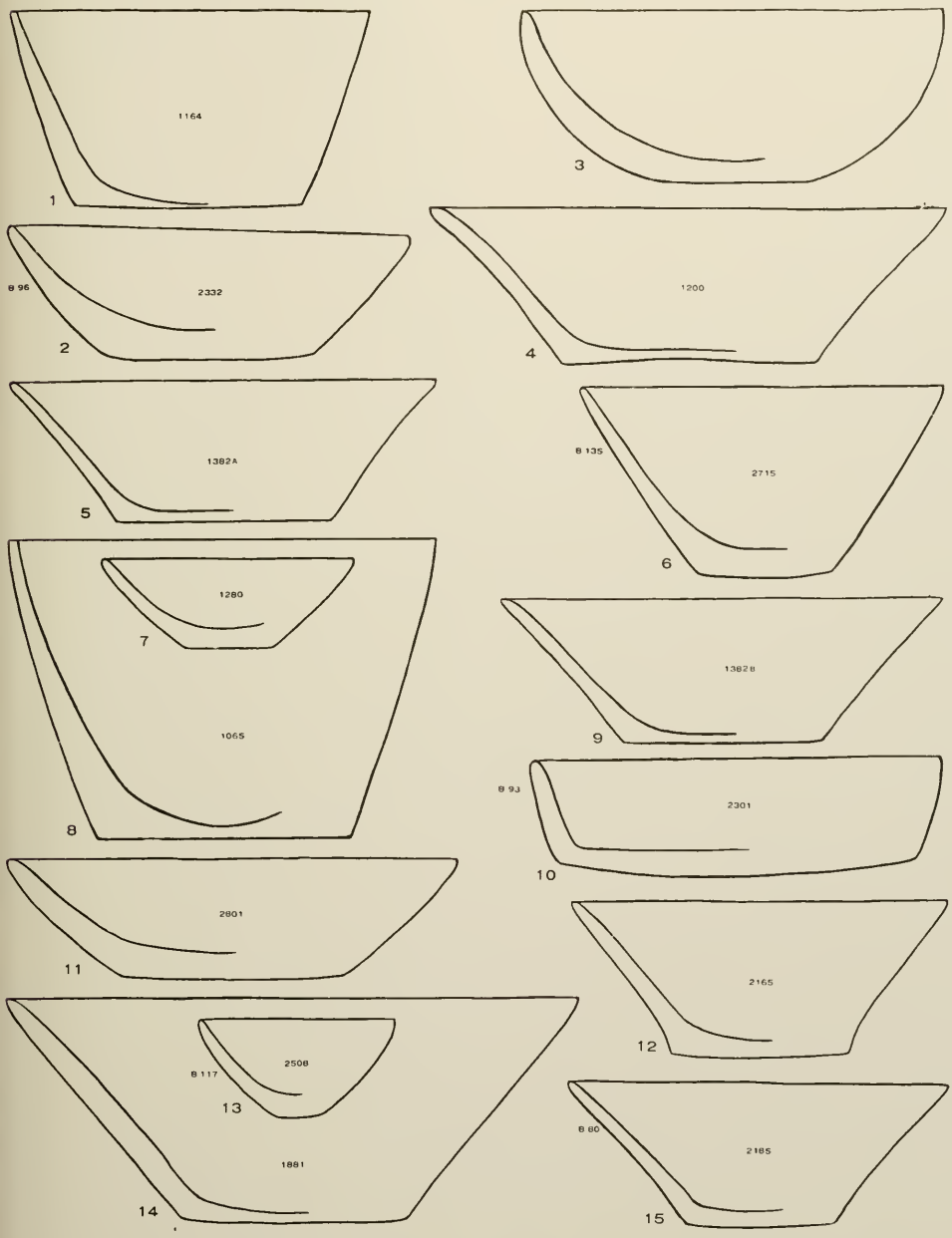


POTTERY TYPES K, KA, AND L.

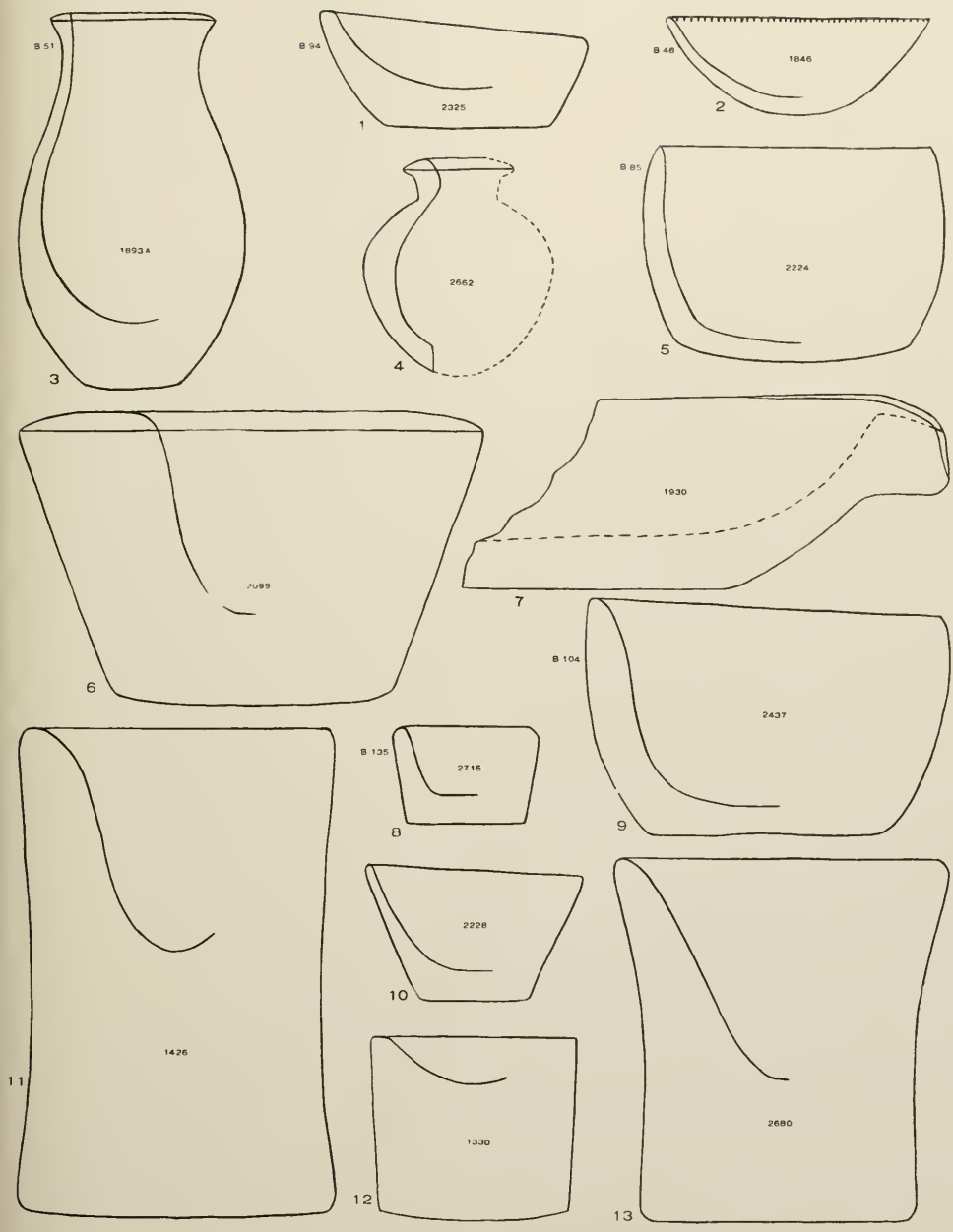


O—MEANS NO RECORDED BURIAL.
B—MEANS RECORDED BURIAL.

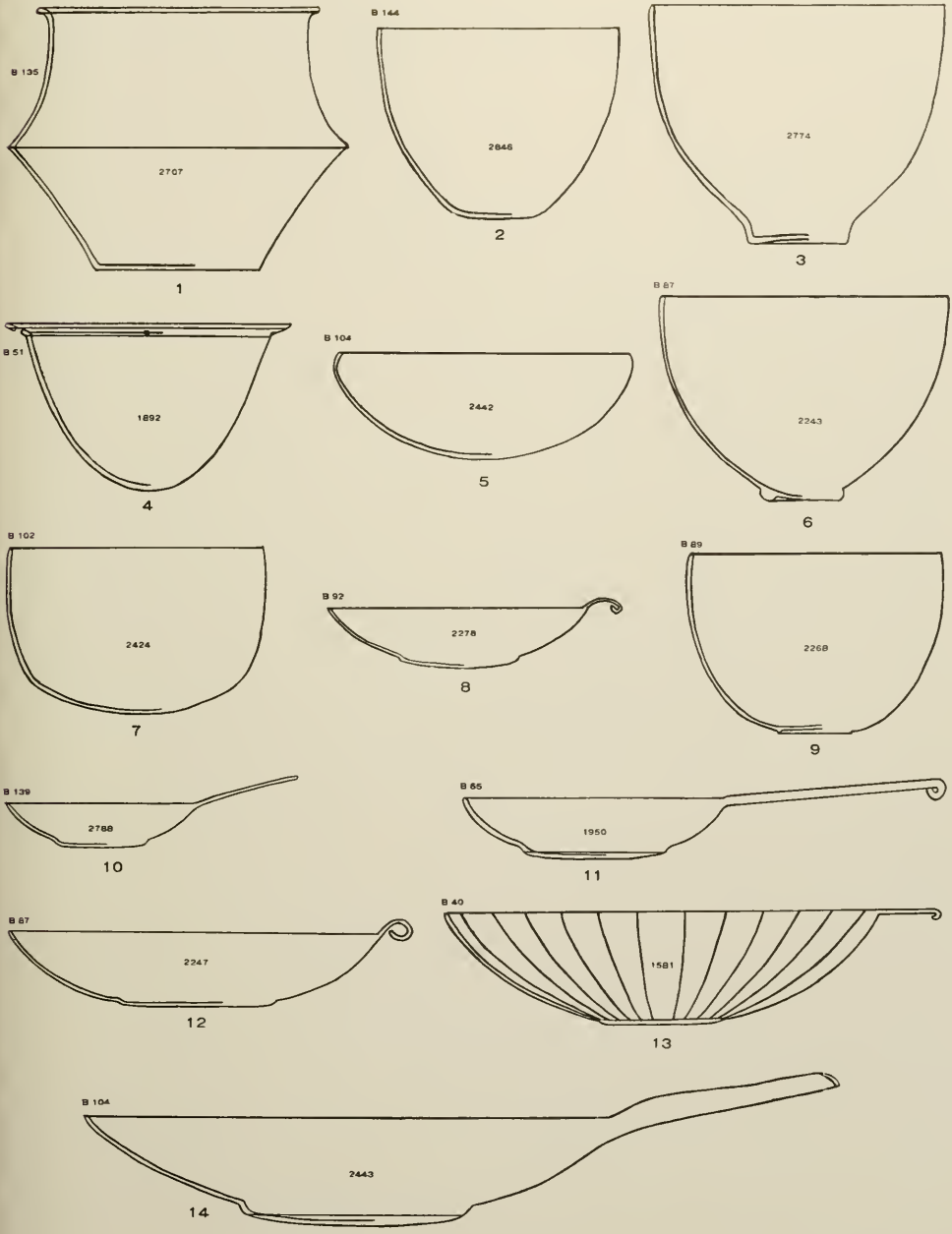
POTTERY TYPES M, N, O, P, Q, R, AND S.



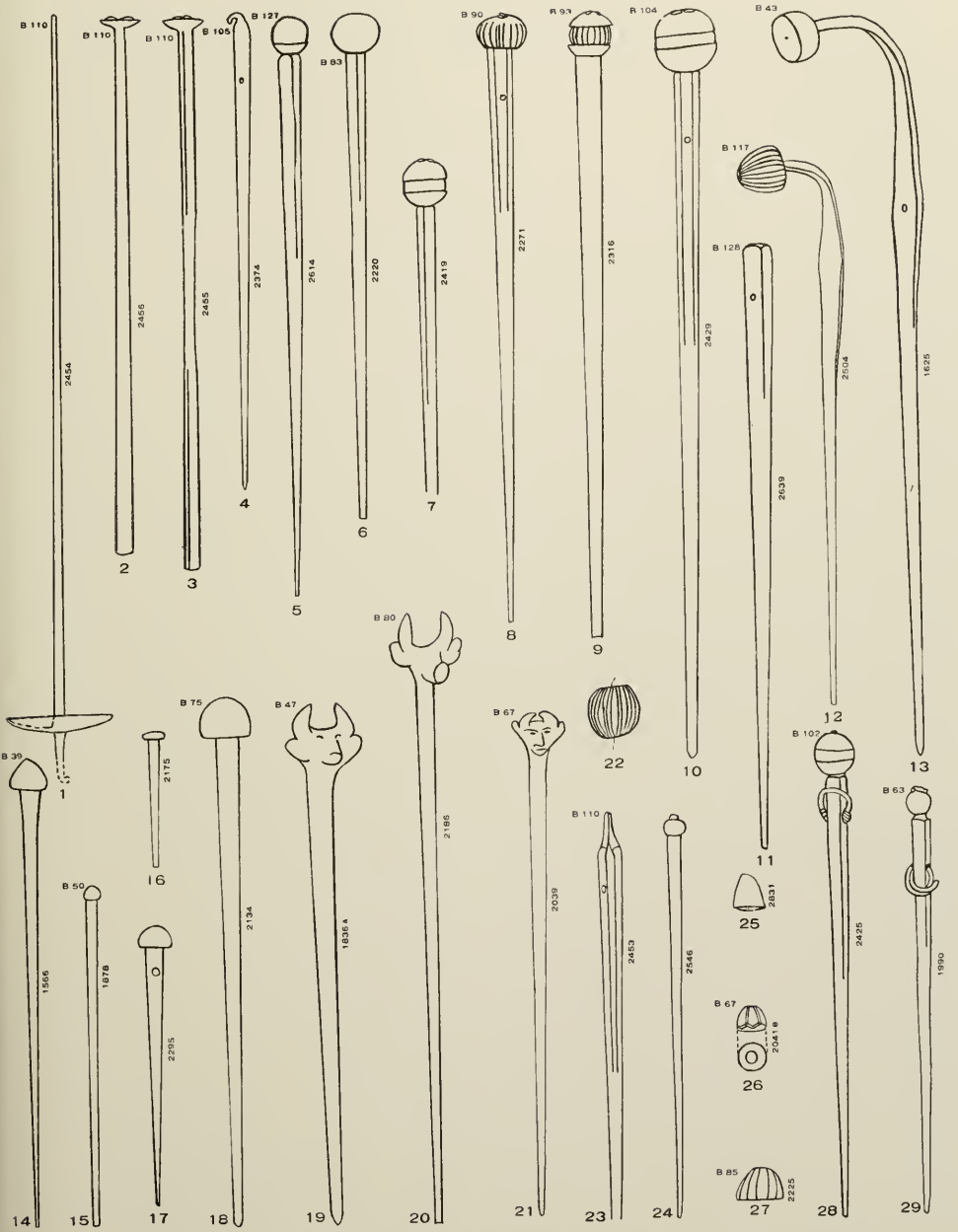
STONE BOWLS AND DISHES.



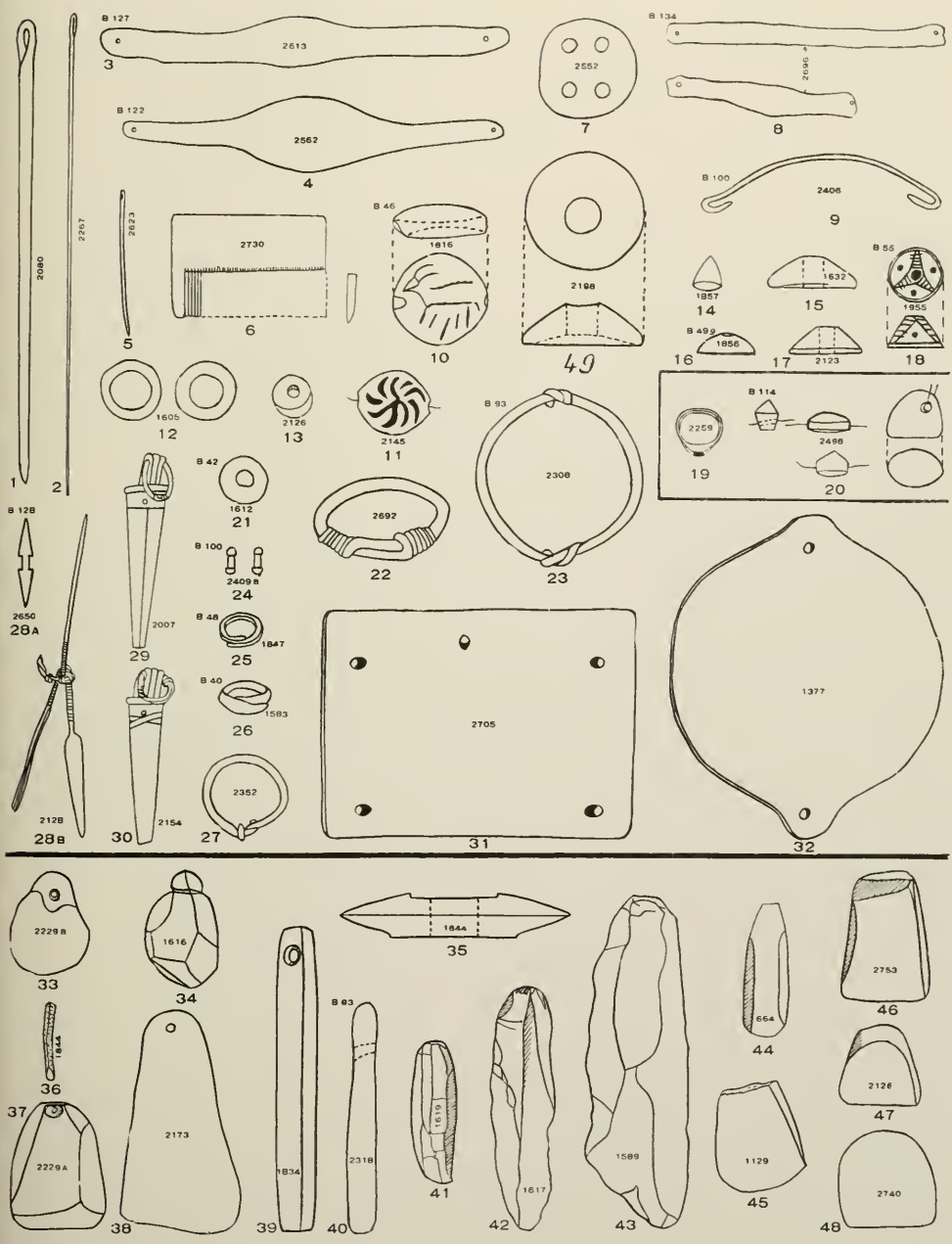
STONE VASES, DISHES, AND MORTARS.



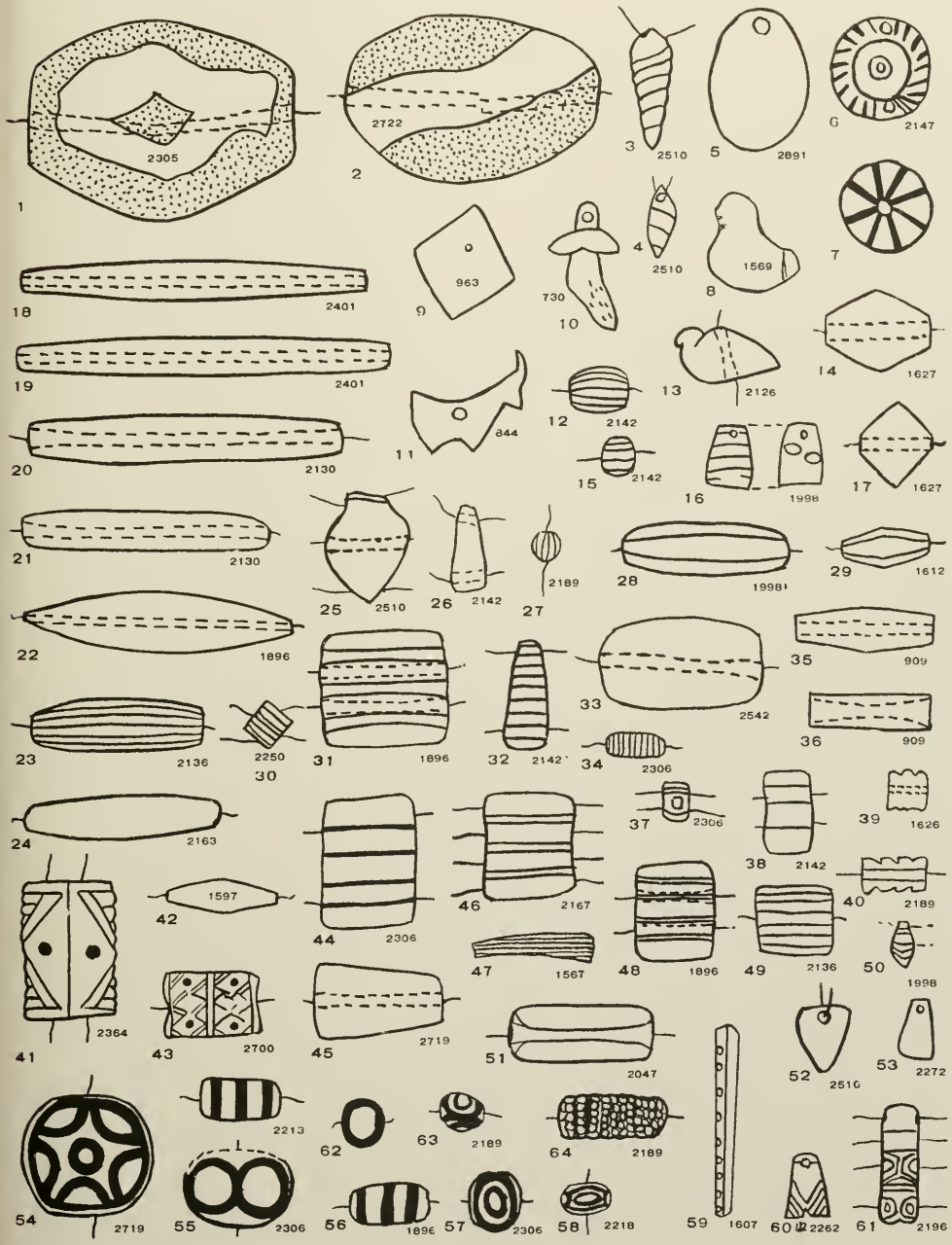
COPPER BOWLS AND DISHES.



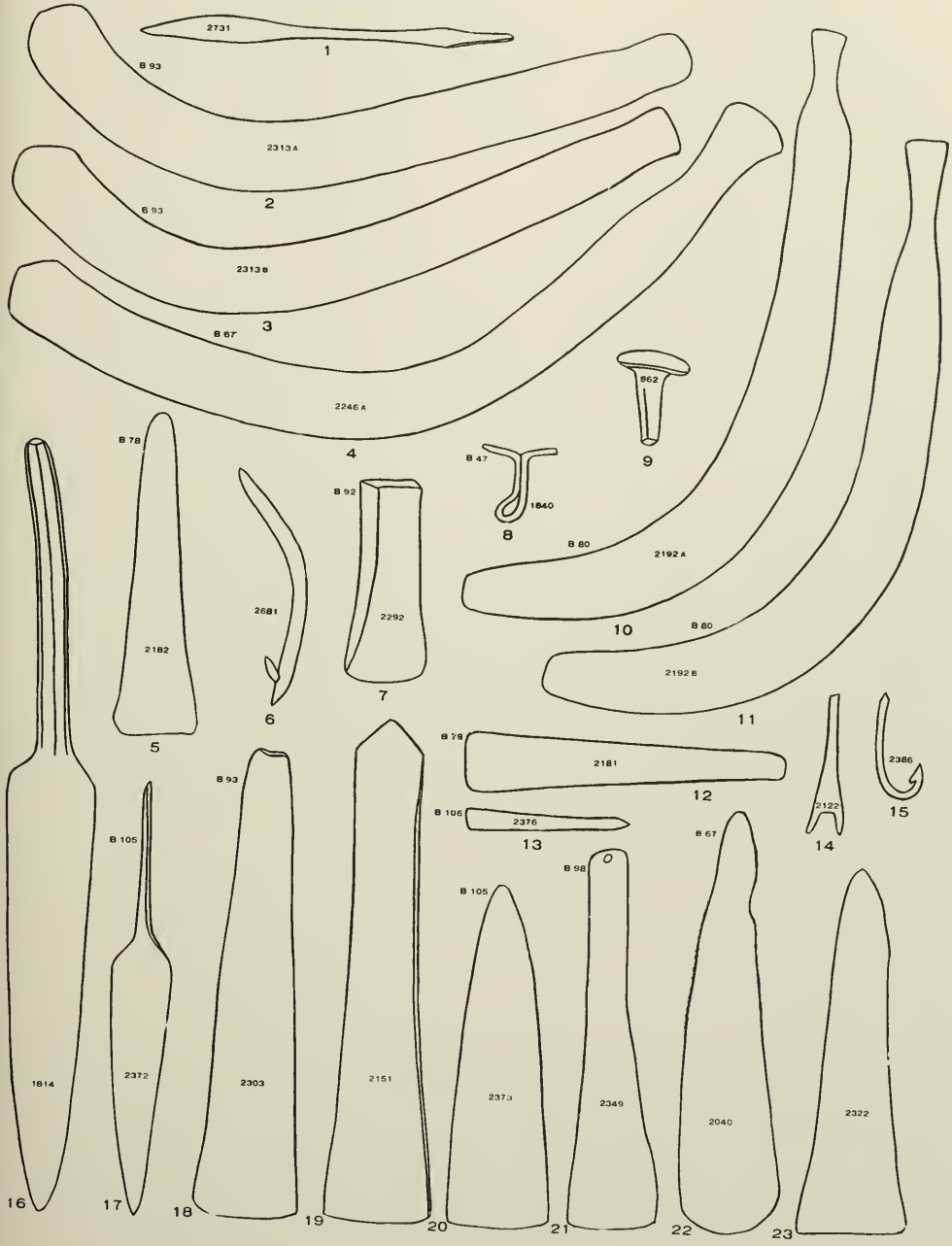
COPPER SPINDLES AND HAIR-PINS.



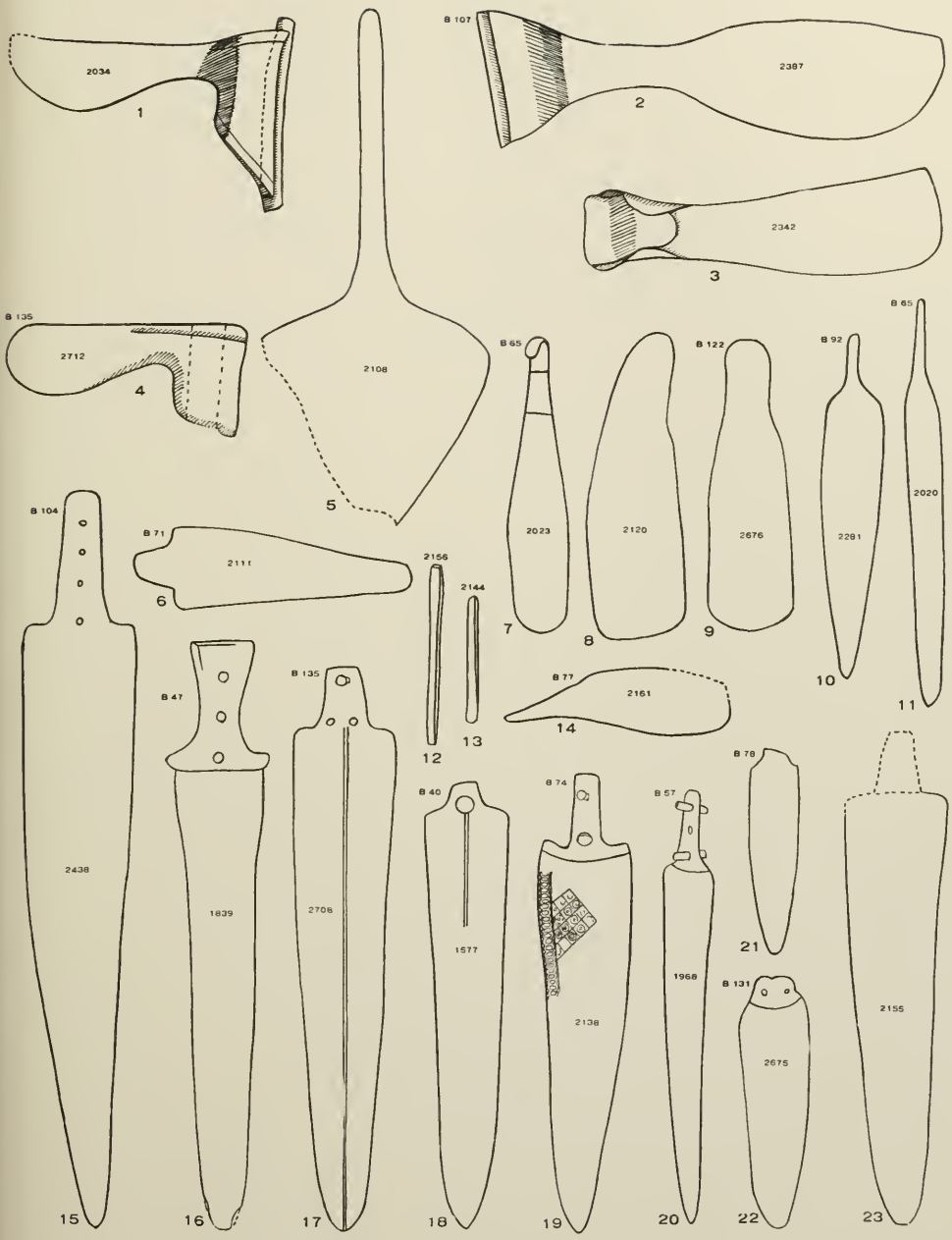
NEEDLES, FILLETS, PERSONAL ORNAMENTS, AND STONE OBJECTS FROM THE PALACE, MOUND "A" AND THE GRAVES.



BEADS AND PENDANTS.



COPPER WANDS, SPEAR-HEADS, ADZES, ETC., FROM MOUND "A" AND FROM THE GRAVES.



BATTLE AXES, KNIVES, AND DAGGERS FROM MOUND "A" AND THE GRAVES.